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THE VETERINARIAN,

A MONTHLY JOURNAL OF VETERINARY SCIENCE.

DECEMBER, 1894.

CONDUCTED BY

J. MACQUEEN, F.R.C.V.S.,

ROYAL VETERINARY COLLEGE.

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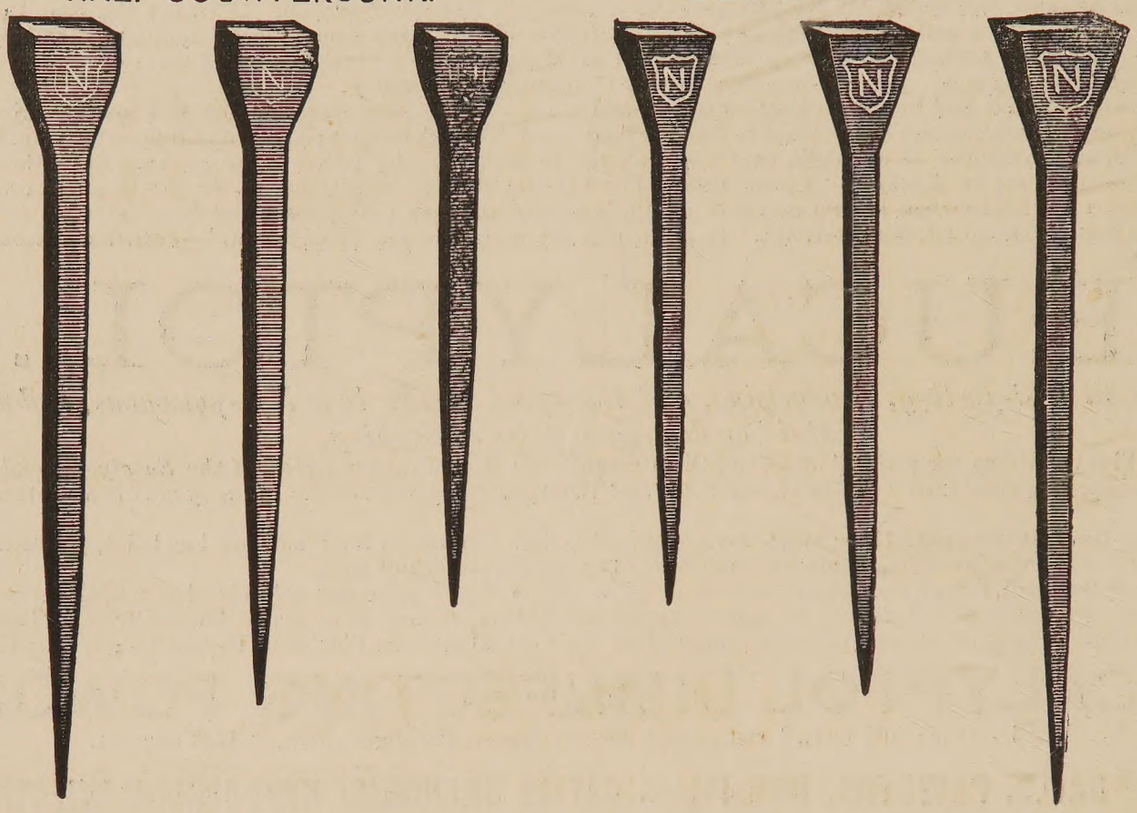

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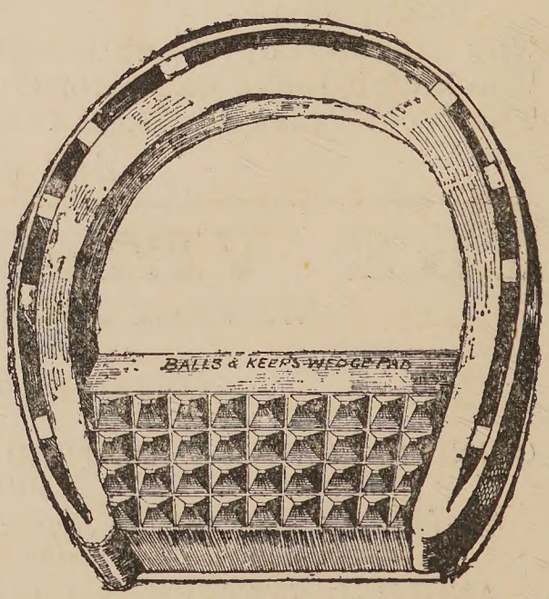

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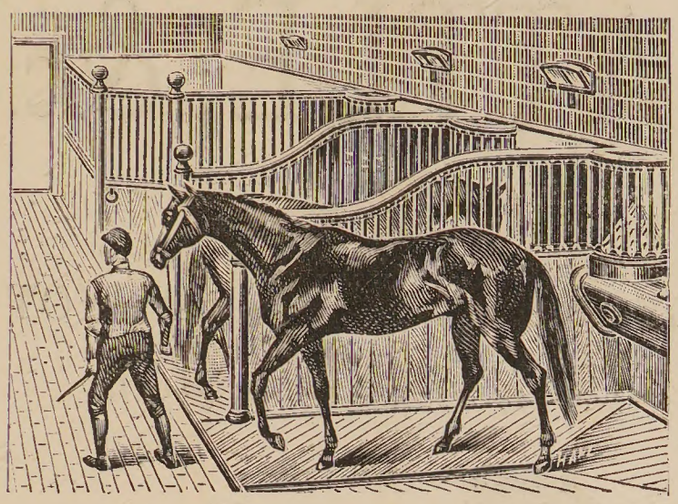

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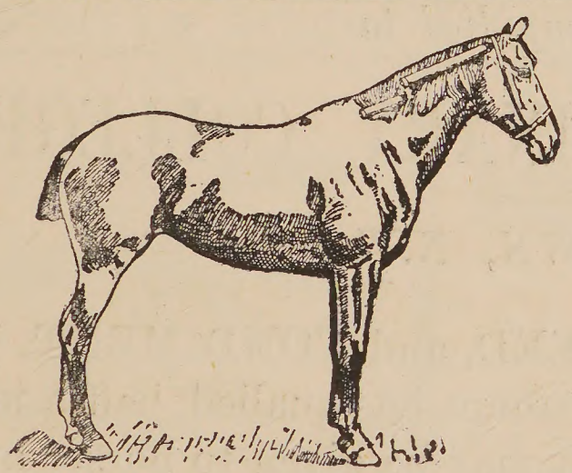

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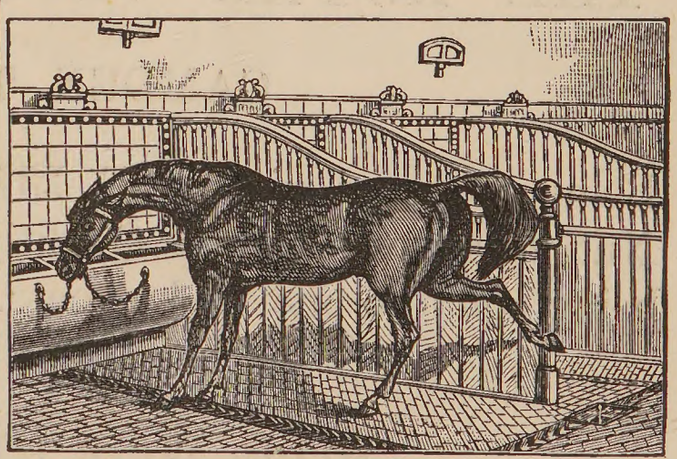

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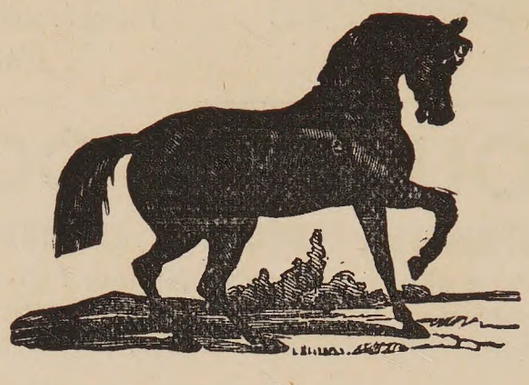

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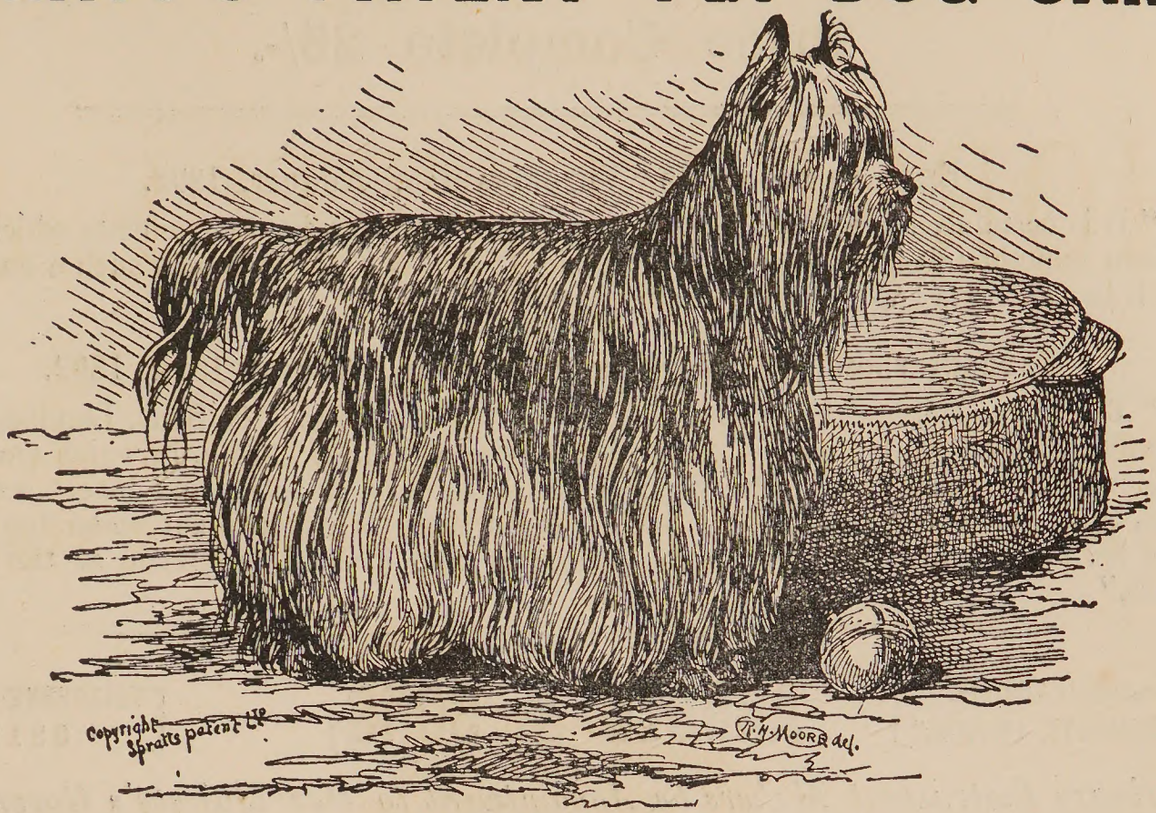

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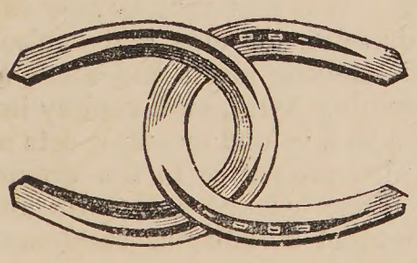

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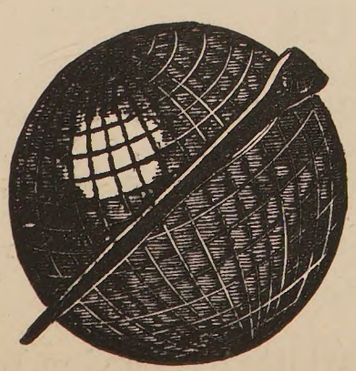

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VOL. LXVII. No. 804. DECEMBER, 1894. Fourth Series, No. 480.

Autobiography.

JAMES BEART SIMONDS, LATE PRINCIPAL OF THE ROYAL VETERINARY COLLEGE, PROFESSOR OF CATTLE PATHOLOGY, &c.

(*Concluded from page* 823.)

College Arrangements.—To return to November, 1871—the date of the communication sent by the Governors to the Clerk of the Privy Council, stating that under existing circumstances my services would henceforth be required at the Institution—it has here to be added that Mr. Newdegate, M.P., as Chairman of the Governors, also informed the Royal Agricultural Society of my retirement; adding "that although my Lectures would now be extended to Equine Pathology, the Diseases of Cattle and Sheep would still receive a full share of attention." He also stated that "Professor Brown had been appointed an officer of the College, and would take part, as might be required, with reference to Cattle Pathology. The reports, therefore, of the occurrence of serious disease among Cattle and Sheep would continue to be sent, and investigations thereof receive the same attention as before."

The Annual Reports furnished to the Royal Agricultural Society may here be conveniently made mention of. The Report for 1871 contained a detailed account of some further experiments, undertaken with a view to determine whether Pleuro-pneumonia could be propagated otherwise than by cohabitation. Mention was also made of the

re-introduction of Sheep-pox from Hamburg, and of the poisoning of young Cattle, in particular, by partaking of acorns in 1868, and again in 1870.*

In addition to the SELECTED cases of ANTHRAX and BLOOD-POISONING, previously alluded to as occurring in 1872–3, the Report for 1872 drew attention to the prevalence of Splenic Apoplexy in the Midland counties, and to the great fatality resulting therefrom. It also recorded serious outbreaks of Hæmatosepsis (Black-leg) among young cattle.

1873. In addition to the further occurrence of Splenic Apoplexy and increase in the cases of Pleuro-pneumonia, attention was drawn to the prevalence of SCROFULA—TUBERCULOSIS,—especially among our improved breeds or pedigree stock. Mention was also made of the poisoning and death in two herds of cattle, one in Hertfordshire and the other in Sussex, from being pastured on meadows which had been dressed with manure containing masses of dried paint and rubbish of various kinds.

1874—treats of the parasitic lung disease and its treatment in Calves and Lambs, and also records experiments in detail in the cases of death from blood poisoning as brought to our notice by Mr. Heath, M.R.C.V.S., Exeter, and Mr. Ware, Martock, Somerset.†

1875—gives particulars of additional experiments for determining the means by which Pleuro-pneumonia may possibly be produced. These, as previous ones, failed to show that its spread takes place by any other than by cohabitation. The report also draws attention to the existence of Aphtha Maligna, and of Arthritis in Lambs, designated Scole in Norfolk—probably a contraction of Scoliosis—crooked limbs, &c.

1875–6. These Reports record the details of experiments by inoculation of Swine Fever, chiefly to determine the pathology of the disease and the means by which it is spread. Attention is also called to the not unfrequent death of animals by poisoning agents, more especially by the employment of the so-called "Vermin Killer."

Cases of poisoning of Heifers by Rape Cake, containing wild mustard seed, are likewise reported; and outbreaks of Hæmatosepsis, Splenic Apoplexy, and Foot-and-mouth Disease.

In 1877 the Cattle Plague, as has been recorded, was again most unfortunately imported, and as it was not

* In consequence of a similar occurrence this report, with additions, was re-issued by Professor Brown and myself in 1884.

† See pages 660 and 661.

quickly stamped out much anxiety was created, more especially among agriculturists. What may, therefore, be called comparatively less serious maladies—although some in themselves were of a fatal character—were passed by, no special reports being required.

It may, however, be here stated that in 1880 a Treatise on that most fatal disease of Cows designated "Dropping after Calving"—Parturient Apoplexy—was furnished to the Society. And further in connection with this subject, although not having any direct bearing upon it, an Essay in 1858 on the "Anatomy and Physiology of the Mammary Gland of the Cow," illustrated.*

The College being in session in November, 1871, contemplated changes had to be postponed. I was therefore requested to act as Director of the School and Hospital until the appointment of a Principal in succession to Professor Spooner was determined on at the Annual meeting of the Governors.

As Director, however, I was empowered to make such changes as were deemed to be pressing. In addition, therefore, to the daily Hospital visits, special Clinical demonstrations were held twice a week, and a day set apart for operations. Clinical clerks and Dressers were likewise appointed from the Second Session Students to attend week by week to the patients, under the direction of the acting Professor.

Monitors, having the oversight of the dissecting-room duties, were selected to act under the direction of the Assistant Professor of Anatomy. The Professor of Chemistry had also power given for carrying out practical analytical work.

These and some other changes of minor importance being approved, the Governors at their meeting on February 20th, 1872, conferred on me the honour of Principal of the College.

At an adjourned meeting it was determined to add a summer session to the existing winter one. The instruction to include Botany,† Practical Pharmacy, the principles and practice of Shoeing, and the performance of operations on the dead subject.

In order to carry out these additions to the Curriculum, the strength of the teaching power had necessarily to be

* See vol. xvi, second series, *Journal of Royal Agricultural Society*, and vol. xix, part 1.

† Helminthology was afterwards added to Botany, and Dr. Cobbold appointed teacher of both subjects.

increased. The consideration of these and other important matters relating to the Infirmary was, however, postponed for the decision of a general meeting of the Governors.

At that meeting Professor Brown was appointed Lecturer on Physiology, Therapeutics, and Pharmacy.

The Educational Staff of the Institution on being completed; consisted of—

J. B. Simonds, Professor and Principal of the College, Lecturer on Pathology.

Professor W. Pritchard, Lecturer on Anatomy, Special and Comparative.

Professor R. V. Tuson, F.C.S., Lecturer on Chemistry, Materia Medica, and Toxicology.

Professor G. T. Brown, Lecturer on Physiology, Therapeutics, and Pharmacy.

Professor T. S. Cobbold, M.D., F.R.S., Lecturer on Botany, Parasites, and Parasitic Diseases.

Assistant Professor J. W. Axe, Demonstrator of Anatomy of Domesticated Animals.

In addition, Hospital Surgeons—pupils of the Institution who had obtained the Diploma of the Royal College of Veterinary Surgeons—were appointed annually; to act under the Professors.

It was also arranged that Monitors, Clinical Clerks, Dressers, and Prosectors be periodically selected from the Class.

At subsequent meetings of the Governors, decisions were come to with reference to the erection of New buildings and the conversion of existing ones to the increasing requirements both of the School and the Infirmary. Those most needed were begun forthwith. Thus by the opening of the Educational year 1872–3 a Pharmaceutical Laboratory, a Class room specially arranged for Histological Investigations and the study of Morbid Anatomy, as well as a new Lecture and Dissecting room were sufficiently advanced for occupation. Much of the work of adding to and improving the Infirmary was also in a sufficiently forward condition to meet the evidently increasing practice. Old sheds had, however, to be pulled down, and new loose-boxes and an entire new Ward erected for the reception of Horses, Cattle, and Sheep and other animals. Hot, cold, douche, vapour, and foot baths, with an operating room, &c., were in due course also added. Ultimately a New and more imposing front to the College was also erected.

Prior to the opening of the Session the following adver-

tisements were issued in the public Press, and also in the *Veterinarian*:

ROYAL VETERINARY COLLEGE.

The School.

"THE educational year is divided into a Summer and a Winter session. The Summer session commences on May 1st and ends June 30th, and the Winter on October 1st and ends March 31st.

Lectures and general instruction are given on anatomy and pathology of the horse and other domesticated animals, including special clinical and pathological demonstrations; also on parasites and parasitic diseases, physiology, histology, chemistry (general and practical), materia medica, toxicology, botany, therapeutics and pharmacy, hospital practice, operative surgery, the principles and practice of shoeing, &c.

In addition to the daily Hospital practice, the Students have the advantage of attending the examination of horses for soundness, large numbers being regularly brought to the College for this purpose.

Practical instruction is given during the intervals between each Session to students remaining at the College.

Hospital surgeons—pupils of the institution who have obtained the diploma of the Royal College of Veterinary Surgeons—are appointed annually to act under the professors.

Monitors, clinical clerks, dressers, and prosectors are also periodically selected from the class.

A pupil previously to his admission is required to pass a Matriculation Examination in writing, reading aloud, English grammar, dictation, the first four rules of arithmetic, and simple rule of three. He can also elect to be examined in English history, geography, natural history, decimal and vulgar fractions, Latin, Greek, French, German, and Italian languages.

The matriculation examination is conducted by the COLLEGE OF PRECEPTORS, fee £1 1*s*.

During his academical course a student has to undergo two examinations by the Royal College of Veterinary Surgeons. To be eligible for the *first* examination he is required to attend one summer and one winter session, and a second winter session *at least* before being examined *for the diploma* of the College.

Besides the regular appointed examinations for Matricu-

lation immediately preceding each session, others are held as may be required."

The Institution.

"A subscriber of two guineas annually is entitled to have twenty horses examined *as to soundness* in the course of a year, and to receive the opinion of the Professors thereon, either verbally or in writing, free from any charge; but if he require an examination of more than that number, a fee of 10*s.* 6*d.* will have to be paid for each extra horse, or the annual subscription increased to five guineas.

The infirmary is fitted with loose boxes and stalls for 100 horses, besides cattle, sheep, and dogs and other animals.

The charge for horses is 3*s.* 6*d.* and cattle 1*s.* 6*d.* each per night. Sheep, pigs, dogs, and other animals are charged at a small proportionate sum per head, which is fixed by the Principal according to circumstances.

The charge for shoeing, exclusive of leather soles, is 5*s.* a set to subcribers and 6*s.* to non-subscribers.

Members of the Royal Agricultural Society of England are entitled to all the privileges of the Institution, as appertaining to cattle, sheep, and swine.

The hospital practice is conducted by Professors SIMONDS and PRITCHARD. Attending hospital surgeon, Mr. S. WILTSHIRE."*

At the opening of the Session, October 1st, 1872—Sir James Tyler, Vice-President, in the chair—the introductory address was delivered by Professor Brown. At its close Sir James distributed the "Coleman Prizes," consisting of a silver and a bronze medal and a certificate of merit, as 1st, 2nd, and 3rd awards.

"Mr. T. Avis, Ramsgate, silver medal.
Mr. C. W. Emms, Ilminster, bronze.
Mr. H. Jarvis, Burwash, certificate of merit.

Certificates for having satisfactorily officiated as Monitors were also delivered to eight other students."†

In 1875 Her Majesty was graciously pleased to grant a Royal Charter of Incorporation of the College, setting forth the regulations to be observed by the Governors with

* Mr. Wiltshire was the first elected Hospital Surgeon. At the close of his year of office he received, in accordance with the adopted Rule of the Governors, a small Honorarium and a Certificate, signed by the Chairman and the Treasurer of the College. Subsequently he was appointed COLONIAL VETERINARY SURGEON (NATAL).

† These particulars are inserted merely as a record of the first awards.

regard to the School and the Hospital, and giving power to them for making such bye-laws as they should deem essential in upholding and advancing Veterinary Science and practice.

Under these circumstances several meetings were held, and prior to the opening of the Session 1875–6 it was announced that a Scholarship of £25, tenable for two years, and an additional Scholarship of the same amount in each succeeding year would be established, and that in addition to the Coleman Prize medals, Annual exhibitions, gold and silver medals; also a Cattle pathology silver medal and certificate of merit would be awarded. Certificates of Distinction on Students who passed a superior Examination for the Diploma of the Royal College of Veterinary Surgeons, and Class Prizes in each division of the Students' studies would be likewise given.

By July, 1876, the general business of the Institution had increased so much that other arrangements had to be made for assisting in the carrying out the official duties. It was determined, therefore, to appoint a Secretary for this purpose. The choice fell on Mr. Powys, the present highly appreciated and valuable officer, than whom no one could possibly have given greater satisfaction during the entire time of my Principalship, and since that time onwards to the present. The oversight of the Dispenser and Collector was, however, still left under my control.

During the period of my Principalship, 1871—1882, some other changes in the College staff took place. The chief being the resignation of Professor Pritchard in 1879, and the subsequent appointment of Mr. W. Robertson as Deputy Professor and general assistant in the Infirmary, and in the Examination of horses on purchase.

Mr. J. W. Axe—now Professor Axe—who had held office as Demonstrator until August, 1876, was also appointed Professor of Anatomy and Histology, Mr. J. H. Steel succeeding to the office of Demonstrator.*

On Mr. Steel's retirement he was succeeded by Mr. E. Simpson Shave, the present Professor of Anatomy.

Early in 1881 my health failed, and being laid aside

* In 1881 Mr. Steel joined the Army, and afterwards was appointed Professor of Veterinary Science in the Bombay Veterinary College. He was the author of several valuable works, among which were 'Outlines of Equine Anatomy,' 'Bovine Pathology,' 'Diseases of the Dog,' 'Diseases of the Sheep,' and of 'The Elephant and Camel.' He died much lamented, January 20th, 1891, at the early age of thirty-five, from abscess in the liver.

for many weeks, great doubt existed as to whether the strain of Office in all its details could be continued in a satisfactory manner. Acting, therefore, on medical and friendly advice at the Annual Meeting of the Governors in June, I made application for being relieved of the Lectureship. His Royal Highness the Duke of Cambridge occupied the Chair, and after the matter had been discussed in my absence, on being called in, the question was put as to whether I did not think that at the age now reached, and the long official position I had held, it would be conducive to my comfort and beneficial to my health if I retired. This suggestion I was not prepared for, and it quite unnerved me; I asked, therefore, for reflection. My consent was given, but with regret, for I felt that the much-loved occupation of my life would practically be ended, and that henceforth I could do but little either to promote the best interests of the Institution with which I had been so long connected, or the onward progress of Veterinary Science and Practice.

Nothing, however, could exceed the kindness and the liberality of the Governors to me on this trying occasion.

A draft Testimonial was drawn up, and His Royal Highness asked if it met with my approval. I could only reply that it far exceeded my most sanguine expectations, and that I should greatly prefer the draft to an embellished copy, as bearing His Royal Highness's signature.

COPY OF TESTIMONIAL.

"The Governors of the Royal Veterinary College, in accepting the resignation of Professor Simonds as Principal, express their regret that his state of health necessitates this course, and they desire to record their high appreciation of the valuable services he has rendered the Institution during the past forty years.

(Signed) "GEORGE."

June, 1881.

It should also be here stated that on my retirement the Council of the Royal College of Veterinary Surgeons presented me with the Diploma of the College, thus constituting me an Honorary Associate of that Incorporated Body.

The more active portion of my professional life may be said to have been thus ended. Nevertheless, I still retain the Honorary position of Consulting Veterinary Surgeon to the Royal Agricultural Society.

On leaving the College I was advised by many friends

to select a seaside residence, as being best calculated to effect a restoration of my health. As such I retired to Ryde, Isle of Wight. In about six months, my health being fairly re-established, I longed to return to Official duties; but the door was closed, another occupied the place I had filled, doubtless equally or even more capable, but nevertheless not more resolved under any and all circumstances to carry out the duties connected with the position.

With renewed health, I, however, have been enabled, with few exceptions, to attend month by month the meetings of the Council of the Royal Agricultural Society while in Session, and those also of the Veterinary Committee; and, until very recently, the Annual Country Meetings. Thus I was present at the Jubilee meeting, June, 1889, at Windsor, on which occasion a greatly extended list of prizes for animals and agricultural implements, &c., was offered, and new classes added. Among the additional prizes for animals were those for Asses and Goats.* In association with two well-known breeders of goats, Mr. R. Birkbeck, St. Albans, and Mr. W. K. Taunton, London, I officiated as one of the Judges.

The Jubilee year of the Royal Agricultural Society will ever hold a prominent place in English history, should only one event connected therewith be recorded, viz., that HER MAJESTY THE QUEEN most graciously assented to be the President of the Society.

Reference may here be made to the circumstance that, by virtue of my official connection, I had the honour, in association with many noblemen and gentlemen constituting the Council of the Society, of receiving an invitation to the dinner given by Her Majesty, at St. James's Palace, March 26th, 1889, His Royal Highness the Prince of Wales, as Acting President, occupying the chair. Subsequently I was also honoured by being presented by Earl Coventry at the Levée which followed.

In addition to being the Consulting Veterinary Surgeon to the Royal Agricultural Society,—and selected examiner in Animal Anatomy and Physiology of the students annually seeking agricultural honours,—in accordance with a resolution of the Council, March 6th, 1890, to confer the title of FOUNDATION LIFE GOVERNOR on existing members who were Subscribers prior to the obtainment of the Charter, March, 1840, my name was placed on the list, the date of my election as a Member being July 25th, 1838.

As previously stated, on my retirement as Principal of

* Thirty-six goats were entered, and the prizes amounted to £45.

the College the Governors appointed Assistant Professor Robertson to the vacant office. Other changes in the staff had thus necessarily to be made, and also a rearrangement of the subjects taught by the several Professors. On these being completed the following list was published:

W. Robertson, F.R.C.V.S., Principal of the College and Professor of Hippopathology.
R. V. Tuson, F.I.C., F.C.S., Professor of Chemistry, Materia Medica, and Toxicology.
G. T. Brown, Professor of Cattle Pathology and Therapeutics.
T. S. Cobbold, M.D., F.R.S., Professor of Botany and Helminthology.
J. W. Axe, Professor of Histology and Morbid Anatomy.
H. Power, F.R.C.S., Professor of Physiology.
E. S. Shave, Professor of Anatomy.
J. Penberthy, M.R.C.V.S., Hospital Surgeon and Clinical Assistant.
T. Pottinger, M.R.C.V.S., Demonstrator.

Professor Robertson was not long permitted to occupy the position of Chief, having been, as previously recorded, suddenly, and while apparently in full health, removed from this earthly scene, December 15th, 1887. This sad event occurring early in the Session, the Governors without delay appointed Professor Brown Principal of the College.

Other events of a far different kind should not be allowed to pass unmentioned, although they occurred subsequently to my retirement. Thus on June 7th, 1890, His Royal Highness the Duke of Cambridge, as President of the College, laid the foundation stone of a new Lecture Room, Museum and Library and Reading Room, thereby adding another existing necessity, and greatly improving the general appearance of the College as a public Institution.

The *first* of October, 1891, saw the Centenary of the College, and as such the Governors resolved to celebrate the event by requesting His Royal Highness the Duke of Cambridge to preside at a Luncheon, and to ask His Royal Highness the Prince of Wales to accompany him. This arrangement was successfully carried out, and besides Their Royal Highnesses very many Noblemen and Gentlemen accepted an invitation to be present. They were joined by the entire Staff of Teachers—among whom I occupied a place. A selected number of Surgeons, Veterinary Surgeons, and Students were also present.

The *déjeuner* was held in a large and decorated tent

erected in the College grounds. The meeting may be described as passing off with great success. A Silver Medal was struck to commemorate the occasion, a reproduction of which, as the chief prize, is annually competed for by the Students. Advantage was also taken of this occasion for the opening of the New Wing of the Institution—previously alluded to as being erected for Educational purposes.

Besides the Centenary Celebration of the foundation of the Royal Veterinary College in 1891—three years subsequently, the FIFTIETH year of the Incorporation of the profession, under the title of the "Royal College of Veterinary Surgeons," arrived in due course. As on similar occasions of the kind, the Jubilee was celebrated by a banquet at which I was present, being the only survivor of those whose signatures were attached as Petitioners for the Charter.

In conclusion it may here be stated that the residence selected in the Isle of Wight, I afterwards found to be situated in the parish of St. Helens, a few yards only beyond the boundary of the borough of Ryde. Mention is made of this as, St. Helens being governed by a Local Board, two years subsequently I was elected a member of the Board, and also one of the Poor Law Guardians—offices which I still hold by re-election. Shortly afterwards my name was also placed on the list of Justices of the Peace for the borough of Ryde.

Advanced age and its attending infirmities now, however, demand that public and responsible duties of the kind mentioned should be administered by others far younger and more capable, if not more willing.

Long spared beyond the threescore years and ten, the time of my departure draweth nigh, and when it comes I trust that by Divine grace I shall be found ready.

February, 1810—December, 1894.

NOTE.—Our readers are requested to kindly strike out the name of Professor Coleman in page 323. It was inserted by an unfortunate oversight. The Professor took great interest in preparing the draft of the Charter, but died before it received the Royal assent.

Communications and Cases.

WORM IN THE EYE OF THE HORSE. (*FILARIA OCULI.*)

By R. Spooner Hart, Calcutta.

I have always viewed the knuckle of bowel which sneaks out of the abdomen through the ring into the scrotum as being rather inquisitive in getting there. In this respect the hernia is ignominiously dwarfed by parasites, for they get everywhere; they migrate so freely that one is tempted to say that if everything in nature did its part as well there would be little room for comment.

This is what occurs to one's mind on first seeing a worm in a horse's eye. These festive ocular tenants are pretty well always on the move, approaching nearly a state of perpetual motion; and this appears a sign of health, for they sometimes become sluggish, and then die. I have never seen more than one in the eye at a time. I once removed one, and it was followed by another in the same eye about a fortnight after, which had apparently come to seek its mate, but before it had time to look round I had it out, and in spirits to preserve it. I once removed one from the near eye, and it was followed by one in the off eye. The tenant occupies the anterior chamber, and, passing through the pupillary opening at leisure, is sometimes in front of the iris and sometimes behind it. Its passing through the pupil, I must admit, is an assumption on my part, for I have never witnessed it do so, and the question arises, can the parasite pass through the structure of the iris itself? When it leaves the anterior chamber it is out of sight, and presumably behind the iris, and yet we never see it pass the pupillary opening, although when in the anterior chamber it is constantly doing so.

When the parasite leaves the anterior chamber it may remain out of sight for a few hours only, or it may be days before it becomes visible again. Whether the parasite ever occupies the vitreous chamber or any other part of the eye, what may be its form on arrival, whether as an ovum or as a worm, I cannot say. In some instances I have detected the worm, moving slightly, lying at the bottom of the anterior chamber, with a halo of the slightest opacity of the cornea just in front of it. Sometimes it is so small, and the movements so slight, that

good strong eyes are required to see it, and in this condition it is quite likely to be overlooked in the ordinary examination of the eyes as to soundness. When you detect the worm in this state and watch it, it is wonderful with what rapidity it attains its full development.

The parasite looks bigger in the eye than it really is when liberated, in consequence of the magnifying power of the cornea. The *Filaria oculi*, as every one knows, is round, but I have met with a few cases where the worm has appeared in shape like an individual segment of tapeworm, and about three quarters of an inch in length. After a time the edges of this white strip begin to fall off, and the parasite in the meantime assumes a ragged and jagged outline; subsequently the whole of this white covering falls off, and the parasite gives the idea of having emerged from a cocoon. I am inclined to the opinion that this white material, which gave to the parasite in the first instance the form described, was an inflammatory product of the tissues of the eye, for it is not an unusual occurrence to see strips or shreds of what looks like lymph hanging to the parasite. I have met with cases where the parasite was hung up in the pupillary opening, giving one the idea that it had been caught in endeavouring to pass through, and had the appearance of a fly in a spider's web struggling to get free; the web in which it was fixed looked like inflammatory exudate thrown across the pupil.

The presence of the worm in the eye excites irritation; inflammation and its consequences ensue, and the eye is destroyed if the parasite is not removed in time Upon the length of time the worm has been in the eye, and the amount of damage done, will depend the success of operation and subsequent treatment. A filaria-in-the-eye case is usually presented for treatment with an even opacity all over the cornea, and the parasite (if in front of the iris) visible, wriggling about inside If the worm has been in the eye for some time the opacity becomes dense, and the worm rendered difficult to see (or it may be obscured); in the former case an examination in the dark by the aid of a candle may be of service.

Opacity of the cornea arising from the presence of a worm differs from that resulting from an injury, which is always thickest at the immediate seat of the trouble or blow; whereas an opacity arising from the presence of a worm is evenly diffused all over the cornea, and is regularly characteristic and diagnostic. In the early stages of the tenancy of the worm the opacity is thin and pale, and, as

already mentioned, after a time becomes dense, and presents a sort of marbled appearance. In the early stages the opacity may clear just as quickly as it comes on; as the worm shifts from the front to the back of the iris, and the irritation is further removed from the cornea, it clears up; but, as can be readily understood, this is not capable of frequent repetition. In addition to opacity of the cornea there is lachrymation, and a more or less constant spasmodic twitching (*blepharospasmus*) of the upper eyelid, which in some instances may be in a half-drooping condition; but, as a rule, there is little intolerance of light. I repeat—for it should be clearly understood—that when the worm is in the anterior chamber (if the opacity be not too dense) it is visible, and seen to cross the pupillary opening repeatedly; but when it leaves the anterior chamber, presumably for the posterior chamber, it becomes invisible under ordinary circumstances, and is never seen to cross behind the pupil.

I now wish to draw attention to a discovery which I made some years ago, and, so far as my knowledge extends, I believe I am the first in the field to introduce it, and that is a means of diagnosing "Filaria oculi" when it is behind the iris.

You place the patient in a darkish stable, and let the light shine into the affected eye from the front and a little to the side of the head, just above the level of the eye, so as to render the interior of the eyeball luminous (a condition in which one often sees the cat's eye), and stand yourself about four or five yards off in the line of the light, when a gigantic worm moving about inside the eye will be visible. It is a pretty and most interesting diagnosis, and partakes of the nature of a panorama, for inside the eyeball one sees a portion (for the full length is not visible) of what looks like a huge white snake, meandering about inside the whole cavity of a colossal eyeball. This sight is certainly one of the most interesting I have seen during my practice in Calcutta, extending over a quarter of a century.

I am not the best hand in the world in putting myself on paper, but trust I have made myself understood in the description of this novel diagnosis.

It is said, and truly so, that horses after worm in the eye give way in the loins (paralysis), of which I have seen many cases. Instances of *Filaria oculi* in Calcutta and where we have a very excellent water-supply are uncommon, but are prevalent in the plains of Lower Bengal, in the

delta of the Ganges, and in parts more especially which are flooded during the monsoon or rainy season, such districts favouring the development of the parasite; and cases of weakness in the loins are also common, so that I am induced to look upon the two things occurring together as a mere coincidence. There are localities in the above districts so favorable to the production of paralysis behind, that owners not unfrequently send their horses to friends or to livery stables in Calcutta during the rainy season, say May, June, July, and August, to guard against this so-called "kumri," which resists all treatment.

I do not think worm-in-the-eye cases occur so frequently at the present day as they did some few years back, and I should like to see this ailment disappear entirely, for it is anything but a pleasant thing for our patients. In being affected with worm in the eye the horse does not stand alone, for a filaria (*Filaria oculi-humani* or *F. lentis*) infests the eyes of men on the Angola coast and the Gaboon negroes.

Treatment.—Having admitted and diagnosed a case, get required things ready for the operation, for the sooner this unwelcome tenant is evicted the better. On admission I prepare the animal and arrange to have the bowels relaxed at the time of the operation.

Having procured a fine-pointed lancet, proceed to form a shield or guard near the point of it. This is done by taking a long piece of cotton and winding it round and round the lancet, leaving about or barely two eighths of an inch of the point exposed, and behind this is the shoulder formed by the cotton. Next procure a feather four or five inches long, and keep it handy. Some belladonna rubbed down to a cream, a good cloth eye-blind or cover which will ensure keeping the eye in perfect darkness, a four-ounce measure-glass two thirds full of water, and a pillow for the horse's head, comprise what I use for the operation. The eye speculum recommended by some can be dispensed with. Having got the above things ready, and seeing at the last moment that the parasite is in front of the iris, throw the horse (*never operate standing*), taking the greatest care that the eye is not damaged, and that the headstall is tied well back so that it does not come in contact with the eye. Having got the horse down and head conveniently fixed on a pillow in a favorable light, you go on your knees at the back of the neck and poll, and with lancet in hand prepare to liberate the worm. This is done by puncturing the cornea just a little above the outer canthus of the eye.

With hand resting on the orbit and lancet held in the ordinary way, with blade flat to the cornea and in a direction parallel to the iris, the point of the lancet is then brought in close proximity to the cornea just above where it joins the sclerotic, and when the stab is made sufficient to clear the iris. In this position you keep steady till the parasite comes in front of the point of the lancet, *and not before.* Then by a sharp and slight forward movement of the lancet you puncture the cornea; the aqueous spurts out, and with it the worm. Now is the time to have the feather handy, for the escape of the aqueous is not always sufficiently strong to force the worm through the incision, or the parasite may be caught on the point of the lancet when it is in the chamber and not get clear out, and is left wriggling half in and half out of the incision in the cornea, with a chance of getting back into the chamber. After puncturing the cornea the animal, being alarmed, will not permit you to touch the eye, and the fingers are too clumsy, but by the aid of the feather which you just twiddle round over the worm, to which it adheres readily, you can then bring it away easily. The feather is then dipped into the glass of water and the worm detached; it moves very slightly in the water and quickly dies. Collapse of the cornea follows the puncture, and it appears wrinkled, and you cannot see through it. The worm may not be seen in the escape of the humour, and to make sure that it is out of the chamber I always like to find the worm, and this is often difficult. It is small, not easy to see, and sometimes it is lost in the bedding. I have found it wriggling on my hand, on the point of the lancet, at the inner canthus, and sometimes under the membrana nictitans. Having liberated the worm, I smear the eyelids all over with belladonna cream by the aid of a feather, and put the blind on; for when the horse gets up you find difficulty in handling him, and further, you do not want to disturb him more than you can possibly help at this moment. Having done this, you let the horse up with great care for fear of injuring the eye. The animal is then taken away, put in a stall, and kept on the pillar reins for some days. You cannot be too careful with the case. Be sure to see that the head-collar is tied well back and the horse does not rub the eye. I generally dress the eye myself twice or three times daily after the operation with belladonna, smearing it all over the eyelids, and keeping the blind constantly wet with ice water by squeezing a sponge held above the eye. If you use a pot for this purpose the

animal is almost certain to knock against it and damage the eye. After the patient has been on the pillar reins for six or seven days the inflammation will have subsided. The blind may then be taken off and the animal let down. The subsequent treatment will consist in keeping the bowels moving, and the use of anodyne and astringent collyria, and other remedies indicated for corneal opacities. If the case is a recent one the opacity quickly clears, and the patient returns to work, care being taken that the blinker is open and roomy. In an old case the treatment will extend over a considerable period; and after extracting the worm and subduing the inflammation, get the horse into work as soon as possible, and let him come up for dressing afterwards as may be required. I find belladonna about the best thing to use immediately after the operation. The iris soon recovers itself after it is discontinued.

I have operated upon a very large number of cases, and have had the good fortune never to fail in extracting the worm. Failures, however, do occur in the aqueous getting away without taking the worm with it, which may be attributable to making the puncture when the parasite is furthest removed from the point of the lancet. After the escape of the humour the worm may die inside the eye, fall to the bottom of the chamber, and ultimately become absorbed. In other instances the aqueous humour will form quickly, and the parasite go on as usual. Such a case will be fit for another operation in, say, from two to three weeks. The best eye to operate upon is the full bold one; it contains more aqueous, and the position of puncture is easier got at. The "piggy eye," which contains little fluid and is buried in a heavy small orbit, is the worst to get at, and extra care is needed in operating upon such an eye that you do not wound the iris and produce hernia through the cornea, for if you do it may give you some trouble. Should this occur, wait a little time for the inflammation to subside, and then take small curved scissors and snip off the protruding portion. Here the use of cocain will be advantageous, and it may be necessary afterwards to touch the part with nitrate of silver. In the instances I have referred to in which the parasite was suspended in the pupil, before operating I had recourse to the free use of belladonna, which caused dilatation of the pupil, breaking down of the web, and liberation of the worm.

Sometimes after the operation you get effusion of a little blood into the anterior chamber, but this does

no material damage, and quickly becomes absorbed. Deformity of the cornea some days after the operation may appear. It is a deformity or distension of a part of the cornea beyond its normal and symmetrical convexity, somewhat resembling a bleb or blister upon it, and does not appear until the aqueous is re-forming and the cornea returning to its original outline. The distension, which gives way generally at bottom and centre of cornea, is more or less rounded in shape and covered with opacity, the remaining portion of the cornea having cleared up; and looking at the deformity being covered with opacity, it would appear to be the cause of it; or is the filling up of the chamber with aqueous responsible for the deformity? There is no tendency to ulceration, or for vessels to spring up in the deformity, and with time, and as the opacity clears and the chamber becomes filled, the bulging decreases, and in some instances disappears. The object gained by puncturing above the outer canthus is that the scar which may be left is less likely to interfere with vision in this position than in any other. When the puncture is made, if the lancet runs some distance between the layers of the cornea before entering the chamber, a large and permanent white scar will be left at the site. The greatest care is necessary the moment the thrust is made to puncture the cornea, and there must be no bungling or mistake; the movement should be rapid and smart, for the eye and head move with lightning rapidity, especially the former, and the retractor becomes very troublesome if any hitch occurs. With any movement of the head the hand should be withdrawn in preference to elevating it, because it is quicker done, and there is less chance of damaging the cornea with the lancet. Never neglect when putting on the hobbles, and before throwing, to see that the parasite is in the front, and even then you may be wrong, as has happened to me, the worm being in the front at the time of fixing the hobbles, but disappearing during the throwing; and in such instances you have no alternative but to let the horse up and postpone the operation.

To resume, I never use the eye speculum for the following reasons:—1. In the first instance I find it unnecessary. 2. Its use is attended with danger. 3. It is in the way. 4. It frustrates the operation. When you puncture the cornea the eye is simultaneously drawn, and with some force, into the socket, and the whole of the surrounding tissues, including the eyelids and membrana nictitans, close in upon the eyeball, and, as it were, subject it to a sort of

squeezing, and the humour thereby escapes with more force, bringing the parasite with it. If the eye speculum is in position it impedes the movement of the eye and its surroundings at the critical moment. Further, the horse fights against it, for in fixing the speculum you introduce a foreign and painful agent; the eyeball is drawn down into the socket, making it difficult to get at, and is, together with the eyelids, constantly on the move, and the space fills with lachrymal fluid. I have seen the speculum dislodged by the powerful twitchings of the eyelids, and cause damage to the cornea. The speculum alarms the patient, makes him fidgety and untrustful, thereby giving great difficulty in getting at the eye. Paracentesis of the cornea is a delicate and very neat little operation, and yet one that amateurs frequently attempt upon the horses of their friends. They endeavour to puncture with the horse standing, and the consequences are, as one can readily imagine, in many cases very serious.

In reference to worm in the eye one seldom hears anything said beyond the operation, for there is a sort of general idea that having got the worm out, the eye will then right itself; but too frequently this is not the case. If removed during its early tenancy complete recovery may take place, but if neglected, or, what often happens, the worm gets behind the iris out of sight, or the owner lets the case run on until he sees the eye diseased before sending it for treatment, complete recovery is exceptional, as the opacity has become marbled or organised, and the internal structures irreparably damaged.

CURIOUS CASE OF DEFERRED FRACTURE.

By B. Freer, M.R.C.V.S., Uppingham.

On the 7th of August last I was asked to see a thoroughbred brood mare that had been kicked on the arm. On arrival I found a small wound on the outside of the upper third of the arm, extending by the probe about an inch and a half obliquely in an upward direction to the bone. The wound was freely opened and again examined with the finger, but no injury to the bone could be felt. The mare was very lame, but had managed to walk without much difficulty about three quarters of a mile. I at once told the owner that the lameness was out of all proportion to the apparent injury, and that in my opinion the bone was cracked. Instructions were given to keep the mare

tied up, the leg to be freely fomented with hot water, and the wound dressed with an antiseptic liniment. Considerable swelling followed, and for several days the mare seemed in much pain. On the second day a dose of physic was given, and aconite ℥xv three times daily in the drinking-water. After the 13th she rapidly improved, and on the 20th walked round the yard apparently sound. The owner was now very anxious to turn her out again, and although I strongly urged him to keep her quiet for another fortnight at least, he sent her to a small field a short distance from the town, and on the 22nd sent me word that she was resting well and walked sound. On the following morning there came a very different tale; the mare was standing in the middle of the field and could not move, would I see her at once. In a very short time I was there, and at once saw that the suspected crack had developed into a fracture. Soon after giving my opinion the mare was shot, and a *post-mortem* examination revealed a horizontal fracture of the radius, about the middle of the upper third. This case is interesting from the length of time that elapsed between the date of the actual injury and separation of the bone, and tends to show how careful we ought to be in insisting on prolonged rest in all cases of apparently trivial injuries to the limbs, the result of kicks or blows, especially when accompanied by severe lameness.

PERFORATION OF THE SOFT PALATE.

By Hugh Begg, M.R.C.V.S., East Kilbride.

The subject of this injury was a ten-year-old brood mare at grass with foal at foot. The owner wishing to have the mare fit for van work immediately the foal was weaned, began to give her a feed of chop—consisting of oats, cut hay, crushed beans, and maize—three weeks before he intended taking her off grass.

While eating the first feed the mare was seized with violent coughing, and had thrown herself down in severe pain with frothing mouth and much squealing—so the attendant said; but these symptoms passed off in a few minutes, when she seemed all right again, though she was not allowed to finish her feed. She was tried with the same kind of food for the next four evenings, but as the symptoms returned more or less each time, the owner sent her down for me to examine on September 3rd.

I found the mare in good spirits and apparently quite well, and wishing to observe the symptoms described, I offered her a few handfuls of mixed oats and maize, which she began to eat with great relish, though after the first few deglutitions ptyalism was excessive; then mastication gradually became slower till it ceased altogether, while all the symptoms of nausea were established. She became a little restless with the fore-feet, and then, with nose poked out, the retching began, and continued for about twenty minutes.

During this time the mare presented a very sickly appearance, and three times, owing to the intensity of the spasms, she groaned, while some of the food was ejected from the nostrils, the act of vomition being complete.

During the first ten minutes the retching was constant, and accompanied by a continual churning of the gastric contents in the œsophagus.

From the history of the case, and the fact that the animal could eat any quantity of softer food with impunity, I was led to examine her throat as the probable seat of mischief. The mare being composed, I introduced the gag and cleaned out her mouth, but had to use candle-light to get the back of the mouth thoroughly examined.

I found on the right superior aspect of the soft palate, about half an inch from its attached border, an elliptical hole, which would easily permit the passage of a shilling.

The edges of the perforation were dark, and the mucous membrane round it was congested, while the substance of the palate in the immediate neighbourhood was a little tumefied.

Not having the animal cast, I could not examine the pharynx or the posterior surface of the velum, but I concluded that the pharynx was in an irritable condition, and that possibly the pharyngeal aspect of the soft palate was in a worse condition than the oral.

Treatment.—I put the animal on mash diet and applied a blister to the throat to relieve the pharyngeal irritation, but I did not adopt any local treatment, as the mare was high-tempered, and now became violent when the gag was introduced.

She very seldom coughed within the next few days, then she was allowed a little hay with no bad effects, and in fourteen days after I first saw her she could eat chop as well as her neighbours.

Remarks.—It is possible that the injury existed prior to the time when the animal showed the first symptoms of

the complaint, but it is more probable that in her hurry to devour the first feed of chop she was attempting to swallow it in a half-masticated state, and so choked herself, and that the palate was ruptured by the violent coughing set up to rid the pharynx and upper part of the œsophagus of the gritty food, which may have contained a foreign body unnoticed.

No doubt the nausea and vomiting witnessed when she attempted to eat the same kind of food afterwards were induced reflexly, through the sympathetic, by the tickling of the injured parts from the passage backward of the badly-masticated food, and possibly the lodgment of some of it in the laceration.

I may add that the perforation healed spontaneously, and that the mare has been at hard work since the time when she began to eat without inconvenience the ordinary stable rations.

INTESTINAL OBSTRUCTION.

By F. W. Evans, M.R.C.V.S., Stratford-on-Avon.

The subject was a very old cart mare, her age being twenty-seven years. When first seen she showed no very alarming symptoms. Last year she was the subject of an attack of indigestion, due to eating too much straw. The following are clinical notes of the case.

November 8th, 11 a.m.—Symptoms of slight abdominal pain, grunting and looking to the right side. Gave Aloes Barb. ʒv in bolus and Liq. Ammon. Aromat. ʒj in gruel. Rectal examination negative, Enema given 4 p.m. No improvement; slightly tympanitic. Gave Eserin. Sulph. gr. j, Pilocarpin gr. ij, hypodermically, and Ammon. Carb. ʒij in a ball. The hypodermic injection failed to produce any effect when I left, some thirty minutes after administration. 9 p.m.—No improvement; more pain; pilocarpin causing salivation; peristalsis marked; pulse 80, hard. Punctured, but failed to get any gas, the cannula apparently being buried in ingesta.

9th.—No improvement; no fæces passed. Punctured with Toope's cannula and injected the bowel with glycerin, the cannula again passing into ingesta. 4 p.m.—Still the same. Advised my client that the case was hopeless. Saturday.—Still the same. No pain, but weaker. Patient died during the morning.

Post-mortem.—Abdomen showed no traces of the punc-

tures. The colon was filled in its first part with huge masses of grass matted together; these had failed to pass the first flexure; beyond this the bowel was empty. The masses of grass would in two cases weigh from fourteen to twenty pounds. The ends were truncated.

The cause of the trouble was owing to irregularity of the molars, which prevented perfect mastication. At this time of the year grass is tough and fibrous.

AN OBSCURE CASE OF RENAL AFFECTION.

By E. Wallis Hoare, F.R.C.V.S., Cork.

Subject.—A bay gelding, six years old, the property of Lieutenant-General ——.

Previous history.—Always healthy, and a very spirited animal, but when fresh was in the habit of "bucking" to a determined degree. The owner had placed him in the hands of a trainer, and the first signs of anything wrong with the animal were the appearance of a hard swelling in the side of the right jaw, with a discharge from the left nostril, and loss of appetite. The jaw was fomented and the animal kept inside for a week, the enlargement gradually disappearing, but on the morning of April 10th the groom noticed the animal in dull pain, with the head depressed, and turned towards the left side when in a standing posture, while if made to move he walked with a stiff gait in the hind quarters.

Symptoms.—I found the patient in the condition mentioned. Temperature 101°; respirations accelerated; pulse quick, but intermittent in character; bowels acting fairly. There was a marked jugular pulsation on the left side, while the muscles of the lower portion of the neck, and of the shoulder on the same side, were in a constant state of tremor.

I learned that very little urine had been passed all day, about a wineglassful at a time, the colour being whitish, and while in the act of urination the animal stretched himself out as if in pain. There was great impairment of appetite, and difficulty in mastication. The animal would stand for a long time with the head depressed and turned to the left side, grunting occasionally as if in pain; he was very stiff in the hind quarters, especially when turning, but I was informed that he had always peculiar action

behind, being a "slight shiverer." There was marked tenderness on pressure over the loins.

On passing the catheter the animal strained, and the penis became partially erected; a small amount of thick, white coloured urine was drawn off. Occasionally the animal would protrude the penis, and make attempts to urinate.

On examining the mouth, I found one of the upper middle incisors fractured at its neck, and the molar teeth showed numerous asperities, which interfered with the tongue.

On making an examination *per rectum*, I detected on the left side, as far as the fingers could reach, a solid body which I believed to be the kidney; slight pressure of this caused intense pain. On exploring the right side, the animal stretched out, and advanced the fore-legs, groaning with pain; nothing could be detected with the exception of the great tenderness on manipulation of the region. An examination of the heart revealed no organic affection, but marked intermittency of action.

Being unable to form anything like a definite diagnosis, I determined to treat the symptoms and wait for further developments, although the owner, who had a pretty fair experience among horses, anxiously inquired for an explanation of the phenomena presented, especially the quivering of the muscles in the left cervical and humeral regions. I ascribed the symptoms to "some" affection of the kidneys (as this was his own idea), and deferred anything more definite until I had the urine examined.

A moderate dose of chlorodyne and Spt. Æth. Nit. was first administered to relieve the pain, and hot rugs were applied to the loins, the same region being rubbed with camphor and arnica liniment; also administered an enema. I prescribed small doses of digitalis and Glycerinum Belladonnæ every four hours, and allowed oatmeal gruel and linseed tea as food.

April 11th.—The patient has slightly improved, and the pain has almost disappeared, but the head is still depressed at intervals and turned to the left side. The urine is more abundant, but still thick and white in colour, resembling milk. The appetite has improved, and the pulse is less intermittent in character. I continued the same treatment, and in addition prescribed Mag. Sulph. ℥ij, Potass. Bicarb. ℥ss, in the drinking water twice daily. Also extracted the fractured incisor tooth, and dressed the molar teeth.

April 12th.—The patient is much improved, the urine being slightly clearer, and passed with less straining than before. I sent a sample of the urine to Professor Macqueen, and he kindly examined it and reported the absence of anything abnormal with the exception of a large amount of mucus. I discontinued the digitalis, and kept on the Glycerinum Belladonnæ.

April 13th.—The patient again shows difficulty in urination, the urine being deficient and passed in small quantities, and the penis erected after micturition. The head is now only depressed at intervals, and there is less tenderness on pressure over the loins; the muscular tremors are only slight in the neck. I again commenced the digitalis, and had a warm blanket kept over the loins; also continued the same powders in the drinking-water. The appetite is fairly good.

From the 13th to 19th of April the patient gradually improved and the symptoms disappeared. The urine, however, was milky in appearance. I continued the digitalis and belladonna, along with small doses of iron and quinine.

April 23rd.—The patient is almost convalescent, the urine is clear, and passed in normal amount without any irritation. The administration of digitalis and belladonna has been discontinued, and powders of quinine and iron given twice daily. There was still a degree of stiffness of the hind quarters in progression. I ordered gentle walking exercise, and in about a week the animal was sent to moderate work, and is perfectly right up to the present, of course maintaining the peculiarity of action in the hind limbs characteristic of a "slight shiverer."

Remarks.—I am unable to offer any explanation of the symptoms of the above case. The beneficial effects of the digitalis were well marked. I can only ascribe the swelling in the jaw, and the fractured tooth, to a blow given by the trainer, probably during a fit of "bucking," as the animal was an adept at this performance.

THE ILL EFFECTS OF FERMENTED RICE.

By Professor Hobday, M.R.C.V.S., Royal Veterinary College, London.

The above is a subject which must be of great interest not only to the veterinary practitioner, but also to the farmer and stock-owner, especially just now when several

food grains have caused so much dispute as to their dietetic or poisonous properties. The cases mentioned below occurred in the practice of Mr. Philip Vincent, M.R.C.V.S., at Grays, Essex, and it is to him that I am very largely indebted for his kindness in enabling me to obtain the chief particulars and clinical facts.

The *history* of the outbreak is as follows:—A large stock-owner had purchased several tons of rice and flour which had been damaged by fire at the docks. On several previous occasions he had utilised similar material for feeding purposes with success and very favorable results. This was purchased in the beginning of March last, and stored on the floor of a barn in a heap.

In the middle of March he commenced to feed some seventy young cattle which were turned out in the field with a mixture consisting of this damaged rice and flour with pea-straw chaff. The animals did not take to it at all, and would not touch it for about a fortnight. On the 28th of March several of them were noticed eating the mixture, and on the 2nd and 3rd of April a few manifested symptoms of illness. In all sixteen animals were severely affected, of which one died, and three were so ill that it was deemed advisable to slaughter them.

By the owner's orders on the 5th of April the food was changed, and doses of Ol. Ricini administered to each of the animals affected. On the 9th April I met Mr. Vincent in consultation.

The rice was placed on the floor of a barn in a large heap, being half burnt and very dusty; its appearance and smell were *very* uninviting; scarcely *any whole* grains were to be seen. Mingled with the rice were small pieces of charred wood, and about six inches below the surface it was so hot that I could not keep my hand in it. Under the surface it was caked together in masses evidently undergoing fermentation, the pieces being covered with mould.

The flour was in hard brick-like cakes and lumps, and had probably been saturated with water used to extinguish the fire at the docks.

One heifer had been killed that afternoon, as she was passing blood with the fæces, and we had the opportunity of making a *post-mortem* as well as it could possibly be done by night with the aid of a lantern.

Rumen.—Full of semi-fluid grassy material. *Mucous membrane* normal. *Reticulum.*—Few whole linseed grains at the bottom of the cells. *Mucous membrane* normal.

Omasum.—Material between the leaves semi-solid, not caked and hard. *Mucous membrane* normal. *Abomasum* normal in appearance.

Intestines.—*Mucous membrane* normal, except for a few small, scarcely perceptible, stellate hæmorrhagic spots. The contents at lower portion were semi-fluid, but abnormally dark in colour. No abnormal smell.

Other organs all normal. Fat and flesh had set well, and the carcass was to all external appearances quite fit for human food.

Of the other fifteen animals affected five were *very* ill, the symptoms being as follows:

No. 1. *Heifer*, two years six months.

April 8th.—Respirations 72. Pulse 80. Temperature 105°. *Horns* very hot. *Nose* hot and scaly. *Eyes* amaurotic. No reaction whatever to a lighted candle. Continually grinding teeth. *Extremities* very cold. Respirations caused great distress.

9th.—As the animal was in fairly good condition it was slaughtered. The flesh looked quite normal, and had "set" well.

We had not an opportunity of seeing the intestines.

No. 2. *Red heifer,* three years.

April 9th.—Respirations 16. Pulse 40. Temperature 102°. *Horns* hot. *Nose* dry and scaly. *Eyes.*—Pupils dilated; reacted slightly to light. Grinding teeth continually. No other constitutional disturbance.

This animal was treated with a full dose of Mag. Sulph., followed by Spts. Ammon. Aromat., Spts. Eth. Nit., āā ℥iss, Excip. q. s. ut ft. hst., three times daily for a few days, and made a successful recovery, being turned out to pasture on the 15th April.

No. 3. *Heifer,* two years six months.

April 9th.—Respirations 12. Pulse 72. Temperature 100·4°. Pulse *very* weak. Respiration *very* laboured, groaning at every expiration. Great dulness. Salivating freely. Throat swollen, *very* emphysematous under skin of neck, withers, loins, and back. Sounded like a drum when tapped. The owner had applied mustard to her throat. We made very minute and careful examination of the skin in and around the emphysematous region to see whether there were any signs of a wound or puncture, but with entirely negative results. Inquiries in the same direction also failed to elicit anything. Prognosed fatal result shortly.

10th.—Owner had animal slaughtered. Mr. Vincent

made the *post-mortem* examination, which resulted as follows:

Lungs inflamed. *Mucous membrane* very red.

Intestines very much inflamed. Contents very offensive.

Spleen slightly softer than normal and a little larger. Mucous membrane of *rumen* peeled off *very* easily. The flesh under the emphysematous portion was black.

No. 4. *Roan heifer.*

April 9th.—Showed symptoms of illness, but not very severe.

13th.—*Muzzle* very dry. Continually grinding teeth. Anorexia. Great dulness. Temperature 106°. Owner gave dose Ol. Ricini.

14th.—Temperature 105°. Pupil widely dilated, but not absolutely blind. A full dose of Mag. Sulph. was administered.

15th.—Temperature 105·4°. Pulse 72. Respirations 56, and very laboured. *Eyes.*—Pupils were dilated, and did not react at all to light. *Ears* and *extremities* cold. *Horns very* hot. *Nose* moist. Constantly grinding teeth. Slight hæmorrhage from right nostril. Stimulants were administered as in Case No. 2.

This animal died on the 17th, but no *post-mortem* was made.

No. 5. *Black heifer.*

First symptoms, noticed on the 11th, were those of loss of appetite, feverishness, horns hot, animal dull, and pupils slightly dilated.

She had obtained access to some of the food which had been overlooked. Treated with Mag. Sulph., full dose, and then with stimulants; she was apparently all right on the 15th.

The food was entirely changed, and up to date (September 4th) no fresh cases have occurred.

In all the above cases the symptoms seemed to point to some poison in the body, which had its chief action on the nervous and circulatory systems.

A chemical analysis for ptomaines, and also for proteid poisons, was made, but failed to discover traces of either. Both the rice and the flour were examined. Under the microscope there was very abundant evidence of the presence of a large quantity of mould, a portion of which I sent to Mr. George Murray, Biological Department, British Museum, who informed me that it was *Penicillium*. This fungus had absorbed almost the whole of the food-substance of the rice.

Desiring to obtain further results and to attempt to establish some practical dietetic evidence, I obtained a quantity of the rice and gave it to a cow. The subject chosen was not in every way a favorable one, because she was in the last stages of tuberculosis.

April 13th, 9 a.m.—Temperature 103·8°. *Nose* and *horns* normal. She was given 4 lbs. of the rice in the dry state. 5 p.m.—Had not touched the rice.

14th, 9 a.m.—Temperature 101°. Had eaten nothing at all, so added 1½ lbs. bran and 2 lbs. chaff to it. Damped it. Midday.—Had picked out the chaff, but would not eat the rice.

15th.—Ate one feed of 4 lbs. rice, 2 lbs. chaff, and 1½ lbs. bran.

16th, 9 a.m.—Temperature 100·4°. Had not eaten any food during the night. 5 p.m.—Had eaten about a handful.

17th.—Had picked out the chaff; eaten nothing else. The rice now given was fermenting and hot, just like that on which the cattle had been feeding. Full of lumps matted together and mouldy.

20th, 21st, 22nd.—Would not eat the rice. Picked out the bran and chaff.

23rd.—Temperature 102·8°. Mixed 2 lbs. of the rice with water and administered it as a draught.

24th, 10 a.m.—Temperature 102·8°. Gave 4 lbs. rice in water. 5 p.m.—Temperature 103·8°. Same dose as at 10 a.m.

25th, 10 a.m.—Temperature 102°. No abnormal symptoms. Eyes normal. 5 p.m.—Temperature 102·4°. Rice given as on 24th.

26th, 10 a.m.—Temperature 101°. Dull. Horns hot. Would not eat anything. *Pupils* slightly dilated. 4 lbs. rice in water given as draught. 5 p.m.—Temperature 101°. As at 10 a.m. 4 lbs. rice given again.

27th.—Temperature 101·2°. Eyes normal. Grinding teeth very much. Was very weak and down on the ground. Being unable to rise, she was slaughtered.

Post-mortem, made by Professor McFadyean, revealed nothing which could be attributed to the effects of the rice.

This animal was not a good subject to make the trial on, because she was so poor and emaciated owing to tuberculosis, and the exhaustion cannot but be attributed to the ravages of the disease aided by the capricious appetite.

August 23rd, 12.30 p.m.—With a view to still further test the matter, I took some of the rice, damped it, and

gave it to two guinea-pigs, together with a small portion of dry rice. 5 p.m.—Had eaten about half an ounce of the damped portion.

24th.—Seemed all right, but would not eat any more.

25th to September 1st.—Would not eat it at all, neither alone nor when mixed with oats.

Although these dietetic experiments were not fruitful of any special result *re* proving that the rice was the exact cause of the mischief, I do not think that they can in any way affect the diagnosis. The facts still remain—(1) That the rice was in a high state of fermentation. (2) That the animals which partook of it most freely became ill. (3) That when this diet was withheld the symptoms disappeared.

The material itself was absolutely unfit for food for any animal, and, even if not fermenting, it seems incredible that very much nutriment could be found in such dusty, dirty stuff.

The symptoms were very characteristic and peculiar, and well worth noticing, the amaurotic eye being so readily seen. I cannot find in the back numbers of the *Veterinarian* any record of such cases; perhaps this report may bring forward several similar outbreaks of dietetic disease.

CLINICAL NOTES.

By F. W. Dowell, Student, Royal Veterinary College.

Prolapsus Recti.—A big cart mare had foaled that morning early, but the placenta was retained though it was late in the afternoon. Owner said he thought I had better look at the mare, as I was there attending a case of acute parturient laminitis.

The foreman and another man agreed in telling me that the rectum protruded a foot when the mare foaled. I questioned them on this point, and they declared that one of the foal's feet had "got up there and pushed it out."

I naturally thought that the odds were much against the mare, but proceeded to remove the placenta,—the os uteri being nearly closed,—on which the owner informed me that it had never been necessary to do anything of the sort with his mares before. I told him that it was a dirty job, and as I was not doing it for pleasure, if he wished I would leave it alone. He of course proved to be, like a good many clients, very knowing, but exceed-

ingly nervous of what he did not understand. I removed the placenta and washed out the uterus with a warm aqueous solution of carbolic acid (2 per cent.). I then gave an enema of linseed oil and a drink of chlorodyne and hyposulphite of soda. The mare's temperature remained at 102·7° and her pulse 60 for a couple of days, when both gradually came down to normal. I continued the hyposulphite of soda with potassium nitrate for four days, and had no more trouble.

Indigestion.—Hackney, six years old; groom said the horse seemed uneasy, lying down every now and then, but he had given no medicine of any sort.

I examined the fæces, and found a large quantity of undigested fibre in them, but apparently nothing seriously wrong with the horse, so I gave him a colic drink and a ʒv physic ball. The next day the physic was acting well, but on the next I found that he was scouring badly. I was informed that the owner, a retired veterinary surgeon, had found fault with the groom for not telling me that he had been giving calomel for a week before, and that it had had no effect.

Fortunately two ʒss doses of opium put matters right.

Difficult Parturition.—Called out in the middle of the night to deliver a valuable cart mare. When I arrived I found the fore feet of an enormous foal outside the vulva, with the head doubled back against the ribs. I could only just reach far enough to touch the neck of the foal. The legs were so big that, even had I been able to get the head straight, they could not all have come away together. I decided on removing the fore limbs. Having skinned one fore leg and cut away the muscle between the scapula and the chest as far as I could reach, I tried traction, rotating the leg at the same time, when I heard a report inside. On examination I found that both radius and ulna had splintered. I then had to take the leg off at the elbow-joint, holding one hand over the broken pieces while I cut away the joint with the other. By this time another man had come to my assistance. He managed to get off the remainder of this fore leg and also the other. He then, after two hours' work, got the head into the passage, and with the help of seven strong men on two double blocks and tackle we removed the remainder of a fœtus that was large enough to have been a yearling almost. The mare lived for nearly two days.

An Accident.—A big cart mare, eight years old, had been in a narrow dry grip all night. When I saw her she had been drawn out, and was stretched out on the grass, breathing about 100 to the minute, and every now and then galloping with all four feet. Fæces that she had passed since she was taken out were covered with mucus. The case was quite hopeless from the first, but I gave her a subcutaneous injection of morphine and atropine, got her propped up on her chest, and gave her a drench of chlorodyne, spirits of Ammon. Arom., &c., and had her rubbed thoroughly dry. She was wet from a cold sweat. I also drew off her urine, which she had evidently not passed for hours. I left stimulating and anodyne drinks, but when I returned at night I found her dead.

On *post-mortem* examination I found the lungs very much congested. I could not find mud in the bronchi, which contained a quantity of bloody froth. The bowels were anyhow. The point of the cæcum was up against the spine near the kidneys. The small intestines were lying on the ensiform cartilage, and apparently everywhere else. All the bowels and the mesentery were much inflamed.

She had been lying, when found, with one fore foot up on the bank, the other one and the two hind in the grip, and the head down, having walked in from the shallow end of the grip until she had floundered about and become cast in the position described.

Chest Wound.—Cart mare kicked on chest just behind elbow on off side. Considerable swelling containing serous fluid.

Gave ʒvj physic ball. Two days later œdematous swellings under abdomen running back from ensiform cartilage. Found serous fluid in these as well as in the one on the chest. Gave diuretic ball, to be repeated each evening. In two days the œdematous swellings under the abdomen were gone, but the swelling on the chest was unaltered. Opened it, and about a pint of serous fluid was discharged. Syringed out with carbolic acid solution (1 in 40), and put in a tent of carbolised tow. Ordered a diuretic ball every evening, and the wound to be dressed twice a day. In two days was sent for. Mare very lame on off fore-leg, and generally out of sorts. Found she had been turned out to pasture in a cold east wind with rain. The result was an acute attack of pleurisy. Temperature 105·4°. Pulse 60. Respirations 30. Gave anodyne and fever medicine. Had mare put in warm box,

clothed, and legs bandaged. Applied a blister (cantharides) round the wound, which was now discharging pus. Treated the wound as before. The next day the temperature was down to 102·6°, and the mare generally easier. In two more days all signs of the pleurisy had gone, the discharge from the wound becoming less daily. I continued the diuretic medicine, adding hyposulphite of soda, and the mare made a good recovery.

Moral.—In all cases of wounds in the chest walls order a warm box. Do not trust to the common sense of the groom or horsekeeper.

AN EXCURSION THROUGH THE GREAT HUNGARIAN PLAIN TO MEZÖHEGYES.

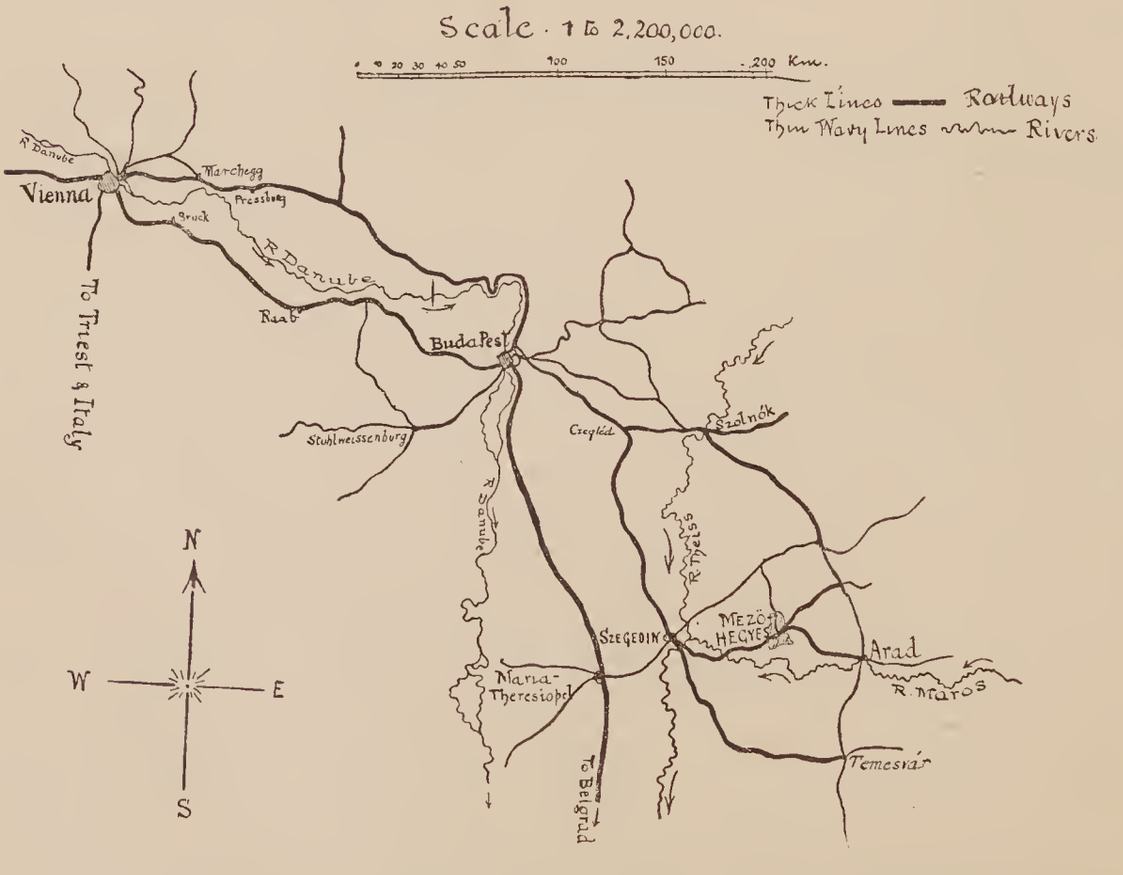
By John A. W. Dollar, M.R.C.V.S., London.

I hope the above title will mislead no one. It sounds perhaps rather ambitious, but I hasten to disabuse the reader's mind of too great expectations. "Blessed is he," in this instance as in many others, "who expecteth little." If my reader will be content with a collection of somewhat disjointed notes, jotted down at irregular times as opportunity offered, let him read on; if not, he had better turn the page.

One of the attractions at the late Congress of Hygiene and Demography at Buda Pesth was a visit to Mezöhegyes, the great Government farm and breeding establishment. The original excursion, however, planned by the directors, fell through from want of members, and at the last moment a scratch company was got together, consisting of Professor Bang of Copenhagen, Professor Udransky von Clausenberg (Chair of Physiology, Berlin University), Dr. Thiergelder of Berlin, my brother, and myself, who determined to make the venture alone. Through the influence of Professor Bang a special permission was obtained from the Hungarian Minister of Agriculture, and on Sunday, the 9th of September, we started from Buda Pesth.

The railway journey from Buda Pesth to Szegedin (the junction for Arad and Mezöhegyes) is about 118 miles, and takes some four and a half hours—very fast travelling for Hungary. The line traverses in its course a considerable portion of the great Alföld (plain or lowland). This plain extends from Pesth in the north-west as far as the borders of Transylvania, and from Belgrade in the south to the

vine-covered hills of Hegyalja. Its area is nearly 5000 square miles. Seen from the train the land appeared uniformly burned up, no remarkable circumstance when we learned that only three or four centimetres of rain (scarcely two inches) had fallen since the previous November. Of greenery there was none. A few melancholy lime trees eked out an existence around the stations, but for scores of miles the horizon appeared absolutely unbroken, and the bare parched earth deserted. The soil varies greatly. A considerable portion is deep sand, easily worked and yielding good crops in wet seasons; a second, found principally in the neighbourhood of the Danube, Theiss, and Ternes, is boggy and much exposed to inundation, but capable of great improvement at little cost; whilst a third is a black loam, the fertility of which is almost incredible. This great plain is bounded on the west by the Danube, traversed from north to south by the Theiss, and connected with Transylvania by the Maros. Its richest part lies in and about Mezöhegyes and the Banat, which contest with one another the title of the garden of Hungary. The country is, however, but sparsely settled. This may be partly due to the constant wars which ravaged the country until the middle of this century, and partly to the fact that Magyar families are seldom large.



The farms often stand far from any beaten track or village, and consist usually of a collection of buildings

enclosed by a thick wall of mud and straw, with an arched gateway leading into the main court. Round this latter are ranged the stables, barns, sheep-houses, and perhaps a shepherd's hut or two. The huts are primitive, consisting of a single room containing a table, a couple of chairs, and a bed. The floor is of hard trampled clay. Behind the house is the oven, a round-topped erection like a beehive, and about three to four feet high. It is heated with maize straw, wood being very scarce and dear. In winter the cattle and sheep are assembled in the farmyard, which they do not leave till spring. In many cases the farmer himself is shut in for months at a time, the wild storms and trackless snow making communication extremely difficult or absolutely impossible.

In summer the climate of the great Alföld approaches that of Italy, but the winter is long and severe. Even in summer the nights are often intensely cold. After the hottest day the sun no sooner sets than a cool breeze springs up, which, though at first merely refreshing, may prove dangerous to those unprepared for it. Only five days before our arrival every one had been wearing his thinnest clothes and enjoying the midday siesta; at the time of our arrival we shivered in overcoats. The minimum temperature is attained in January and the maximum in July. The rainfall is small compared with Austria, the average at Buda being 21½ inches, whilst in the great Alföld the rainy days are estimated not to exceed ninety-six annually. Hail-storms are frequent in the Carpathians, as was shown by a recent notice in the newspapers. On October 10th hail fell so heavily in Northern Hungary as to form a layer three feet thick, and interrupt railway trains for twelve hours. In many places the lines are protected from drifting snow by woven hurdles, which are erected in autumn and removed in spring. These snow guards extend for miles.

Though the land occasionally suffers from drought, the chief danger is flood. The rapid melting of the snows on the slopes of the Carpathians sometimes causes the rivers to rise several feet in twenty-four hours during the spring months. We are strikingly reminded of the fact by our approach to Szegedin. This town is situated at the confluence of the Theiss and Maros, and after a few days of warm weather in March, 1879, the rivers rose with such rapidity as not only to sweep away the whole town, but to drown 2000 persons who had been unable to escape. Szegedin has been rebuilt in a greatly improved style, and

is now protected by heavy embankments. Being situated at the junction of two navigable rivers and three main lines of railroad it is growing rapidly. Here we change carriages. Our new train at once crosses the Theiss, and strikes off in an easterly direction through the Banat district. Until 1715 the Banat was under the Turkish rule, but owing to defective drainage and the constant overflow of the Theiss and Maros it consisted of a collection of immense morasses, almost uninhabitable on account of malaria. It is now one of the most fertile parts of Hungary, and produces an endless variety of crops, amongst others wheat, barley, oats, rye, rice, maize, flax, hemp, rape, sunflowers (for oil), tobacco of different kinds, wine, and silk; cotton is even said to have been successfully raised. The winters are, however, too cold and long continued for the cultivation of the orange or lemon. Agricultural methods were until recently very primitive, and though modern machines are being rapidly introduced one may still see the ground turned with the old wooden plough formed of a conveniently shaped tree, and drawn by six oxen. Irrigation is little resorted to except at Mezöhegyes, and even there only to a limited extent.

We arrived at Mezöhegyes about 9 p.m., and were most cordially received by the director, the military commandant, and the State veterinary surgeon, Herr Johann Tátray. Carriages being provided, we at once drove to our hotel, which, like all else at Mezöhegyes, belongs to Government. After dinner we remained smoking and chatting with the officials, most of whom speak a certain amount of German, but as our tour of inspection was to commence at 8 a.m. next morning, the sitting was not protracted.

The following day we were up betimes. The sky was overcast, a light rain falling, and the weather cold. I almost abandoned the hope of photography. After a light breakfast (and in Austro-Hungary the breakfast is a very light one indeed) we drove to the director's office and recorded our names in the visiting book. A glance at the map hanging on the wall showed that the estate is in the form of an irregular polygon, or perhaps a very much distorted isosceles triangle. The widest part measures 28 kilometres across, and the total area is fully 100 square miles. The seat of government and railway station are not in the centre, but rather nearer the southern boundary (base of the triangle), and from them diverge long straight roads bordered by avenues of trees, which run to the extreme boundaries of the estate. Several of these roads

are supplemented by narrow gauge railroads to carry goods at times when the roads themselves are impassable. Stone, gravel, and wood are too expensive to employ in road-making, and the carriage tracks are formed only of the hard beaten soil. In summer, therefore, they become perfect Saharas of dust, in spring and autumn sloughs of despond. Here and there patches of wood are seen, but the country generally is perfectly flat and unchanging, the only objects which break the monotony being the little whitewashed sheds of the labourers, or the long gaunt arms of the counterpoises which mark the site of wells.

One of the secrets of the excessive fertility of this land is to be found in the constant presence of water just below the surface. Dig where one will, water can always be obtained at a depth of six to ten feet. The soil rests on a veritable marsh. This certainly has its advantages, but there is little doubt it is also responsible for the intermittent fever which is so common amongst the labourers, and for the periodical outbreaks of subterranean waters which often lay waste the country. The subsoil communicates so freely with the rivers that, though the latter are embanked, any considerable rise in height is followed by the water bursting through the soil, sometimes at points several miles removed from the stream.

From the director's house we went to inspect the horses. The stud was founded about 1814, mainly owing to the introduction of English race-horses and hunters into Hungary by Count Széchenyi, an officer of hussars. To show their superiority he instituted races and kept a pack of hounds, and the annual meetings at Buda Pesth soon became very popular. Before this time the usual stock was produced by the union of the native animal with imported Spanish horses. The horses thus obtained were very inferior. Four distinct types are to be seen at Mezöhegyes, the Gidran, the Furioso, the Nonius, and the English thoroughbred.

The original Gidran sire was imported from Arabia in 1814, and was put to other Arab mares. In 1840 a certain amount of English thoroughbred blood was introduced, which modified the character. The present Gidrans are animals of about fifteen to fifteen and a half hands in height, of a bright chestnut colour, and with much of the Arab quality. They have, however, become somewhat heavy in body, and have rather lost the fine "quality" of bone and tendon of the Arab; and though they have fine heads and good shoulders and loins, they have as a rule plain quarters.

There are 120 Gidran mares and two stallions. The better of the two stallions is now six years old, and the thirty-sixth in descent from the original Gidran. When the foals show signs of becoming too heavy they are crossed with English thoroughbred stallions, and several English stallions are kept for the use of outside breeders, whose mares they serve at a fee of 50 gulden (£4). A great proportion of the best of these animals (Gidrans) go to the Austrian army, but some are sold both for harness and saddle work, though they are less popular than the other breeds, possibly on account of their temper. Foals which are pure Gidrans on both the sire's and dam's side are branded with a star on the left of the withers, and with a capital G and their number in the line; on the right side they bear a crown. The stallions have in addition the yearly number of their foals branded just below the crown.

The second type is the "Furioso." They are descended from "Furioso," an English thoroughbred stallion imported in 1842, and from "Nordstar," a native mare. The produce was in 1843 crossed with Arab blood. These animals are dark brown in colour, and average sixteen to sixteen and a half hands in height. The brand is a trident.

The type most esteemed in Hungary is the "Nonius" breed. The sire and dam of this type were imported from Normandy in 1817, but their Percheron ancestors had already received accessions of English blood. The produce was soon afterwards crossed with a stallion of mixed Arabian and Holsteiner or Mecklenberger breed, and later with a Lippizaner stallion. They showed in consequence the heavy neck and forehand and the coarse head of the German horse. To remedy this English thoroughbred stallions were introduced, and latterly in-and-in breeding has been resorted to. The result seems scarcely satisfactory. In fact, the type seems in no way a true one; it is not "set," and whilst some of the foals continue to show the faults of the German horse, others appear to have thrown back to their Arab or English sires. Speaking generally they are rather heavy in body, with plenty of bone, active on their legs, but have defective hock action. An attempt has been made to distinguish two types—"great Nonius" exceeding sixteen hands, and "small Nonius" below that height. In spite of their evident defects the Nonius class are in great request throughout Hungary, and are even sent into Austria. The great Nonius are showy in harness, and suit large heavy barouches very well. The best fetch from 1000 to 2000 gulden (£80

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to £160). They are of a rich bay colour, very docile, stand fatigue well, and are serviceable either in harness or saddle. Of the "small Nonius" mares there are about 106 with foals, of the "large Nonius" about 92.

The last type is the English thoroughbred. A somewhat peculiar fact is the tendency of all these to lose their quality, and on the flat plains and rich pastures of Hungary to become coarse and heavy. This is probably due to environment, as every care is taken in selection.

The various classes are kept carefully apart, and have different quarters and treatment. Thus the in-foal mares of each class are together. They are lodged in immense sheds about 200 feet long, 16 feet high, and 30 feet wide. Here they are fed three times a day; in the intervals they graze in the adjoining fields. Their daily allowance is 3 kilos. of corn and about 7 kilos. of hay, though if grass be abundant the hay may be reduced.

The foals are in separate sheds, "each after his kind." Of yearlings there are at present 136 of the four breeds. They begin to receive corn at six weeks old, when their allowance is 1 kilo. At six months they are weaned, and from then to one year have 3 kilos. of oats and 5 kilos. of hay per day during the winter. In summer their only food is grass. Between one and three years their allowance is (during the winter) 2 kilos. of oats and 6 or 7 kilos. of hay, with about 2½ kilos. of exhausted beet refuse from the sugar factory. From the age of six months they are exercised twice daily for two hours at a time. The *csikos*, or horsekeeper, rides round and round, urging them on with his long-lashed whip, first at a walk, afterwards at a trot; they are then turned out to graze. This *csikos*, with his long spurs, gourd covered with foalskin, and the thong of his whip ornamented with leather rosettes, is shown in Plate I. He is always with his charges, and seldom quits the saddle from early morning until sunset, his food being taken to him in the fields.

The full-grown stallions have an allowance of 5 to 6 kilos. of corn, whilst the working horses get 5 kilos. of corn and 5 to 7 kilos. of hay per day.

The mares are served from the end of November to the end of May, and foaling takes place from October to April. In 1887 the total number of brood mares amounted to 1200, and of stallions to 300, and these produced over 1000 foals per year. The number is now somewhat less.

Disease is very uncommon, owing to the isolated position, good food, fresh air, and regular exercise. Amongst the

foals a considerable annual loss was at one time occasioned by *Fohlenlähme* (navel-ill), but this has almost ceased since the removal of the earth floors and the disinfection of the walls, mangers, &c., with corrosive sublimate. Strangles used to occur as an epidemic, but is now seldom seen, all new animals being strictly quarantined for six months before admission to the stud.

In addition to Mezöhegyes there are several large horse-breeding establishments in Hungary, notably those of Prince Esterhazy at Ozora, that at Kestelly belonging to Count Festetics, Count Hunyadi's at Uirmeny, and those of Counts Bathyany and Henkel.

The old race or primitive Hungarian stock of cattle next claimed our attention (see photograph). They are a speciality of Mezöhegyes, and are kept both to perform the work of the estate and to furnish oxen for fattening. For draught work they are not employed until four or five years old, not being fully grown before six, and they continue useful until the age of twelve or fourteen. Their general colour is a silvery white. On account of exposure to the weather and hard living they are long in attaining maturity, and are very spare and muscular. The horns are immense, some measuring over six feet from tip to tip. The race is very hardy, the percentage of deaths varying from 2·5 to 4, whilst 83 to 88 per cent. of the cows prove fertile. The live weight averages 450 kilos. in the case of cows, and 650 to 700 kilos. in that of steers. Having little adipose tissue or the space to bestow it, they are ill-adapted for fattening, though 1000 are annually prepared for the butcher, but their flesh is always rather dry and wanting in fat. The cows yield little milk, the total per year averaging 600 to 800 litres; but what they do give is excellent in quality, and contains 5 to 5½ per cent. of fat. Twelve litres of milk yield four litres of sour cream, and this makes 1 kilo. of butter, whilst the skim-milk contains sufficient casein to furnish 2·5 kilos. of cheese.

During the winter the animals are turned into open sheds facing south, and supplied with plenty of straw. The cows calve without any particular care, and the calves are from the very first exposed to the weather.

Dinner having been rapidly discussed, we visited the meadows in which the principle of irrigation is carried out. It has proved so successful that five crops of hay are obtained per year, and the system is to be greatly extended. Although at the time of our visit almost the whole country was burned brown with the sun, the water meadows were

covered with a luxuriant growth of grass eighteen inches to two feet high, and of the most brilliant green.

On the road we passed a large herd of pigs in charge of their *kanasz* or swineherd, of which I give an illustration (see Plate I). The bristles are so long as to become quite woolly in appearance, and from a little distance it was difficult to say whether the animals were swine or sheep.

The principal grains grown in this district are wheat and Indian corn, or, as it is locally termed, *kukuruz*. At the time of our visit the crop was almost gathered, and only here and there were the harvesters at work. When the corn is cut the husks are stripped from the heads or "pones," and the latter stored in narrow magazines, some of which are forty or fifty feet long. They are very narrow from back to front, generally measuring from five to six feet, are about fourteen feet high, have numerous slits in the wooden sides to admit air, and stand on pillars two to three feet above the ground, both to guard against the attacks of mice and to promote ventilation. When thoroughly dry the grain is thrashed out and stored in immense granaries. We went through one of these. Its height would not be less than fifty feet, and it contained four floors about forty by fifty feet. In the lower story was an engine to drive the elevator and supply power to the machinery for cleaning the grain. At the time of our visit the building was comparatively empty, but even then it was estimated to contain 17,000 metre centners of wheat and 5600 metre centners of maize, weighing together about 2400 tons. The grain is contained in immense tanks, whence it is periodically transferred to the floors and turned over to assist its drying. From the top of this great granary we obtained a splendid outlook over a considerable portion of the estate.

As the light was now nearly gone, we hurried back to see the milking and cattle-feeding establishments, passing on the road several flocks of native Hungarian sheep, which we unfortunately had not time to examine. A short description, however, of the shepherd whom I afterwards saw may not prove uninteresting. These men wear a pair of loose linen drawers and a short shirt, descending scarcely below the breast, over which is drawn an embroidered waistcoat or jacket. Their feet are protected by long boots or sandals, and their heads by wide-brimmed felt hats. In winter they carry the bunda, or sheepskin coat. This is made like a close cloak without a collar, and is composed of the skins of the long-wooled Hungarian sheep

partially tanned. The wool is left in its natural condition. The leather side is prettily ornamented with leather cords or rosettes. The peasants wear the same (bunda), when it is fine, hairy side out; when it rains or is cold, the reverse. All the milch cows are of the so-called Kuhländer breed. They come from the Markgrafschaft Mäyr, and are generally crossed with Simmenthaler bulls, it being found that Kuhländers when bred in-and-in on Hungarian soil always become much larger, and lose their good qualities. Their colour is red and white, horns short, height at withers about thirteen and a half hands, and their average weight 500 kilos.

The dairy work is carried out very carefully. Each cow is weighed once a week, her milk is estimated, and her return per weight of fodder exactly determined. The best cow in the establishment last year yielded 4000 litres of milk. This is an exceptionally large return, the average not exceeding 2000. As soon as the milk is collected it is cooled to 4° Reau. by a patent apparatus, placed in one-litre sterilised cans and sealed. It is sold at 10 kreutzer (approximately 2d.) per litre, and yields a clear gain of 8 kreutzer after allowing for railway carriage.

In summer the cows get one and a half kilos. clover per day and unlimited grass, and go twice to the meadows. During the hottest part of the day they are in the sheds. In all 200 milch cows are kept on the premises. When dry they are fattened for the butcher, a process that takes about six months. The principal food is beet refuse from the sugar factory, to which is added dried and ground brewers' grains. Each animal is placed on the weigh-bridge weekly and its weight noted. In five to six months they increase 200 or 250 kilos., and are then sold. Munich takes most of these animals, though a few go as far as Frankfort-on-Maine. The butcher buys by kilo. live weight, the average price being 28 kreutzer (about 6½d.).

One thousand cattle are always being fattened. As they are changed twice a year the total output amounts to 2000. One half of them are of the old Hungarian breed, the other half belong to the Steiermark breed.

We had driven close upon forty miles and been sight-seeing for twelve hours, so our inspection finished with the dairies. At dinner that evening I elicited the following facts. The whole estate is divided into nine districts, each with a responsible head, who again has several subordinates. The total number of higher officials is thirty-five. They direct the movements of a small army of horse-

keepers, cowherds, shepherds, swineherds, dairy hands, and general labourers, numbering in winter 6000, and reinforced in autumn by a further 2500 harvesters.

The number of horses and mares on the estate is 2500, of riding and driving horses 300, of pigs 4500, of sheep 8000, of working oxen 2000, of fat cattle 1000 (changed twice a year), and of calves, steers, &c., 1385.

The direction and supervision of such an estate call for the powers of a general of division, and, during the harvest months, for not a little of his courage and decision.

Our stay had proved most enjoyable, and when with the next morning came the necessity of saying adieu, it was with real reluctance that we left a spot where we had met with so much kindness. A journey of six hours brought us safely to Buda Pesth, and a day later we were once more treading the streets of Vienna.

I have in conclusion to express our deep gratitude to the entire staff at Mezöhegyes for their untiring patience and good-will in answering our numerous questions, and for their exertions on our behalf generally. Hungary is famed the world over for its hospitality, and the best compliment I can pay to our kind entertainers is to bear witness to the fact that they fully upheld the national reputation.

Opinions and Research.

UNITED STATES.

The Veterinary Magazine.

341. Therapeutic Abstracts.

Defay's hoof cement is an excellent preparation for building up the plantar border of a hoof from which horn has been broken away, or for obliterating defects at other points of the hoof. ℞. Resin. guttaperchæ, ʒiij ; ammoniaci (gum), ʒiss. Melt over a slow fire, stirring actively till a homogeneous mass is obtained.

This warm and pliable mass is to be moulded in place upon the hoof by means of a red-hot iron spatula. To increase the intimacy and durability of the union between the horn and the cement, the former should first be slightly roughened with a hoof knife, and then rubbed with a small sponge drenched with ether or chloroform to remove all oil from the horn.

The mass cools and hardens in a few minutes, and the process may be hastened by dashing cold water upon it.

Salol is a chemical union of salicylic and carbolic acids, and is destined to become a valuable therapeutic agent.

1. *Externally,* in the form of the powder, or in alcoholic solution (1 to 10), it has a decided *disinfectant* and *antiseptic* action upon wounds, ulcers, and catarrhal inflammations of the skin and mucous membranes (stomatitis, otorrhœa).

2. *Internally,* salol is an *antipyretic,* and almost a specific in *muscular* and *articular rheumatism.* For rheumatism it is to be preferred to salicylic acid, or the salicylates, because it gives more certain relief, is tasteless, and non-irritating to the stomach. In the alkaline fluids of the small intestines salol is decomposed into salicylic and carbolic acids, and appears in the urine partly as salicylic and salicyluric acids, and partly as a sulpho-carbolate. The urine, therefore, shows the brownish-green coloration (hydrochinon) of urine secreted after administration of carbolic acid. In consequence of the excretion of salol as salicylic acid, it is being prescribed for pyelitis and cystitis.

Fröhner strongly recommends salol for acute articular rheumatism, and to a less degree for acute muscular rheumatism in the dog. It is especially valuable in the treatment of lumbago rheumatica in the dog.

An alcoholic solution is very serviceable in auricular catarrh of the dog.

Administration.—Internally it is given to the dog in powder, and to the horse in an electuary or bolus. For rheumatism it should be given in small doses, and repeated from three to five times daily; but as an antipyretic in one large dose each day. Dose:

Horse and ox, ʒiv to ʒvj; as febrifuge, daily, ʒiss. to iij.
Large dog, grs. viij to grs. xv; as febrifuge, daily, ʒss. to j.
Small dog, grs. iv to grs. viij; as febrifuge, daily, grs. xv to xxx.
Cat, grs. 1½ to 3; as febrifuge, daily, grs. viij to xv.

℞ Saloli, grs. x.

Sig.—Give one powder every three hours. For a dog with lumbago rheumatica.—*Fröhner's Thierarzneimittel.*

GREAT BRITAIN.

The Lancet.

342. Two-cart System.

For many years it has been a common thing to see in Manchester two carts and two horses passing along the streets in charge of one man. It is a practice not un-

attended with danger, as the horses cannot be under full control, and it is, moreover, cruel to the animals themselves. The second horse is tethered by the neck to the back of the first cart by means of a rope, or perhaps more frequently by a chain. The movements of the two horses are rarely synchronous, the second seldom starts at the same moment as the first, and so gets a drag on its head; while in the numerous cases where the first is stronger or speedier, the continuous dragging by the neck of the unfortunate second animal is productive of much cruel suffering. The object of this arrangement is, of course, to save a man's wages. It has long been a scandal, but has survived many attempts to put a stop to it, both within the Council and elsewhere. Now, however, there is some hope that its end is near, as the House of Commons has sanctioned a clause in a Bill promoted by the Corporation, prohibiting this two-cart system within a radius of two miles from Albert Square. The reason for this limitation of area is not apparent.

343. The Germicidal Powers of Blood-serum.

The experiments detailed in a paper by Dr. C. B. Ewing form a distinct contribution to the subject of immunity in infectious diseases. These experiments, made with rattlesnake poison, were undertaken to determine the cause of the profound blood-changes and rapid putrefaction of the body that occur after rattlesnake bite. It was argued that this might be due to the blood-serum losing its bactericidal power, and the experiments were conducted with the view to test this hypothesis. The results recorded are certainly very startling, the comparison of the effects of normal serum and venom serum showing clearly that the introduction of the venom speedily affects the germicidal powers of the blood. This germicidal property of normal serum is, however, itself limited, at least as regards the *Bacillus coli-communis*. The experiments with the *Bacillus anthracis* seem to show that after a time the germicidal power is regained by serum that has been acted on by the venom. How the venom operates is not shown, but from the lucid account given by Dr. Ewing we may infer that it acts partly by reducing the alkalinity of the blood, an increase of which is known to raise the germicidal power, and partly perhaps by the direct influence of the toxic principle. In any case the results seem to confirm the views that normal healthy blood-serum is a powerful protective agency against the inroads of bacterial infection,

and that toxines act harmfully not merely by their direct effect, but equally, if not more fully, by lowering this resistent power of the blood against secondary infections.

British Medical Journal.

344. Thiersch's Method of Skin Transplantation.

Schnitzler and Ewald (*Centralbl. für Chirurgie*, No. 7, 1894) assert that they have been thoroughly convinced by a number of observations in Albert's clinic that large skin grafts formed by Thiersch's method become fixed and grow just as readily on granulating as on raw surfaces. By applying the grafts directly to a granulating surface and by not scraping away the granulations much pain and bleeding are prevented. The authors attach no importance to the necessary neglect of antisepsis in Albert's method, and cite a case of large open surface near the mouth which was successfully closed by transplantation without any attempt having been made to protect the parts from infection. As the more painful stage of Thiersch's method—that of scraping away the granulations—is omitted, it is not necessary to administer a general anæsthetic. Before cutting away the large grafts the skin is frozen by ethyl chloride. The frozen skin, in consequence of its hardness and freedom from elasticity, can be cut more readily. The sections thus made are, however, somewhat thicker than those obtained from unaltered skin. By this modification all the advantages of Thiersch's method may be obtained, and the transplanted grafts adhere and grow more readily and are more permanent than those formed after Reverdin's method.

345. Case of Phthisis in a Dog (Bull Terrier).

Mr. W. B. Pritchard reported this case at the Manchester Pathological Society. The animal weighed 25 lbs. In March, 1891 (at five years old), he had double pneumonia, but recovered. He had a relapse in August, 1891. The symptoms were difficulty of breathing and recession of chest walls on inspiration; cough, but no expectoration; mucous râles and dulness all over the chest. In September, 1894, he had an attack of pneumonia and dropped dead. On *post-mortem* examination the pleural cavities were found filled with fluid; lungs shrunken and adherent. On section a number of cavities filled with pus were found. The greater part showed greyness of chronic pneumonia; the upper lobes were in the first stage of acute lobar pneumonia. On microscopical examination air-cells filled

with leucocytes were seen, with patches here and there, the centre breaking down; fibrous tissue and pigment abundant. No giant-cells could be recognised.

346. The Slaughtering of Animals.

Dr. Dembo, physician to the Alexandra Hospital in St. Petersburg, has recently published the results of his investigations in connection with the various methods of slaughtering animals which are at present in vogue. In compliance with a request from the "Society for the Prevention of Cruelty to Animals" in St. Petersburg, he took up this question in January, 1891, and in October of the following year he was one of a Special Commission appointed to consider the matter, which Commission pronounced its verdict in favour of the Jewish method of slaughter. So interested was Dr. Dembo in the question at issue that he has since visited a large number of the principal abattoirs in Germany and Switzerland, and more recently some of those in France and in this country. These observations have been further supplemented by physiological and chemical experiments of the highest value and importance. The method of stunning the animal before bleeding it, as conducted in the Continental abattoirs, presented so horrible a picture that Dr. Dembo determined to visit this country, where he supposed this method would be seen in greatest perfection. But what amount of perfection may be claimed for it here may be gathered from the following account of one of many such spectacles which Dr. Dembo witnessed. At a certain slaughter-house no fewer than seven blows were delivered on the head of an ox before the animal lost consciousness. After the first two or three blows the animal got its head a little free, and repeatedly tried to dodge the axe, so that it became difficult to aim the blows accurately, and the whole procedure of stunning occupied no less than ten to twelve minutes, as timed by Dr. Dembo, who stood watch in hand. So much for our method of slaughter. What of our abattoirs? Dr. Dembo considers them a disgrace to our country. In all his travels he has never seen anything, even in the smallest villages, to compare with the insanitary condition of the majority of our slaughter-houses. That an opinion of this kind should be formed by such an authority is so great a disgrace to our country that we are sorry that duty compels us to record the fact.

In his book Dr. Dembo deals with the problem as to the best method of slaughtering animals from three stand-

points—humanity, hygiene, and economy. At the outset of his consideration of the subject from the humanitarian point of view, he points out that two categories of methods of slaughter may be considered—simple bleeding (the Jewish method), and previous stunning of the animal to be slaughtered. The first question which naturally arises is, what length of time elapses before consciousness is lost when either method is practised? As a result of his observations in abattoirs, and of direct physiological experiments conducted in the laboratory, he concludes that conciousness is lost in three to five seconds by the Jewish method, owing to anæmia of the brain. The objection that has been put forward, that after the carotids have been divided the brain still receives blood through the vertebral arteries, has been controverted on experimental evidence. It is pointed out that at best the amount of blood which the brain receives from the vertebral arteries is insignificant, and that it is further diminished owing to the great fall of blood-pressure consequent on the escape of blood from the divided carotids, so that next to no blood reaches the brain by way of the vertebrals. Further evidence is adduced in support of the correctness of this view, from the fact that vertebrals have been ligatured in man without any particular inconvenience being experienced, while simple compression of the carotids in the neck produces loss of consciousnes. Other more trivial objections are equally satisfactorily refuted; and finally, as we have more than once had occasion to point out, Dr. Dembo insists that a cut made with an exceedingly sharp knife is almost painless, and that particularly must this be the case in the neck, where so few sensory nerves of any size are divided.

In dealing with other methods of slaughtering animals, he finds that, of the hundreds of instances in which he has seen the operation of stunning carried out, the average number of blows necessary to produce loss of consciousness has been five to six. Allowing a second for each blow, and for each interval between the blows, the time occupied would be ten to twelve seconds; but seldom was it Dr. Dembo's good fortune to be able to count the time thus occupied by seconds. The difficulty of stunning an ox is ascribed to the small size of the brain as compared with the large size of the head and the thick skull, and evidence is adduced that even in man, whose brain is large and whose skull is comparatively thin, instances of severe injury to the skull without loss of consciousness occur, and that even when

the brain itself has been injured. Further, a rabbit weighing 1950 gr. not only remained standing, but was conscious after receiving a blow on the front of the head with an iron hammer weighing 650 gr., the blow being delivered with all the force that the operator could command. But even after the animal has been stunned, it not infrequently happens that so much time elapses before the stab with the knife is given that the animals show distinct signs of consciousness when the knife is plunged into them, and have even been heard to groan with pain.

Dr. Dembo has still greater horrors to describe in that portion of his book which deals with various masks that have been employed; their common object is to facilitate the operation of stunning the animal. It will be sufficient for us to record his experience of the results obtained with one of these. The object of Bruneau's mask is to allow an iron bolt to be driven into the brain; and in one instance no fewer than twelve blows were necessary to drive this bolt through the skull. In connection with this and certain other masks it is usual to pass a long Spanish cane into the hole in the skull, with a view of destroying the medulla oblongata, a procedure which occupied eight minutes in one instance; and even then, on *post-mortem* examination, the medulla oblongata was found to have been absolutely untouched. The extreme difficulty of directing the cane accurately towards the medulla is insisted on, and instances of brain injury in man are cited as evidence of the inutility of the method unless the medulla oblongata can be directly injured.

As to the method of sticking a dagger between the occipital bone and the atlas, for the purpose of destroying the vital centres in the medulla, Dr. Dembo's anatomical investigation of the conformation of these parts in the ox has proved that the spinal cord is injured far below the medulla by such a procedure, and that to injure the medulla oblongata in the way the blow is given is an anatomical impossibility. The method thus becomes a very cruel one, for the posterior nerve-roots are injured, giving rise to great pain, and the animal lies paralysed in all its extremities, and yet still perfectly conscious.

The impracticability of killing animals by electricity and of guillotining them is discussed; and it is pointed out that killing by narcotics will be discarded owing to its costliness and the alterations which may be produced in the meat, in which connection he records an instance in which certain animals became narcotised by eating the flesh of an animal

to which chloral had been administered during life. Thus Dr. Dembo concludes that from a humanitarian point of view none of the practicable methods of slaughtering animals can compare for one moment with that in vogue among the Jews; and that if the word "ideal" could be employed in connection with the killing of any living being, it would be applicable to this method of slaughter.

In considering the question from the hygienic standpoint, Dr. Dembo first deals with the amount of blood that can be drained from the animal, and the amount that remains in its tissues. An animal killed by the Jewish method, he finds, loses 72 per cent. of blood, while only 28 per cent. remains in the tissues; when death is produced by stunning before the animal is bled, only 28 per cent. escapes, while 71 per cent. is retained; and when stunned and the neck vessels are subsequently divided 46 per cent. of blood escapes, while 54 per cent. is retained. Vaso-motor paralysis is held responsible for the large amount of blood retained in the tissues when stunning is resorted to; and this is urged as a reason against the method of dividing the spinal cord by a stab between the occipital bone and the atlas, as considered from the hygienic point of view.

The next point dealt with is as to the rate at which rigor mortis sets in, and it is pointed out that the sooner this is established the longer does the meat remain sound. Two artificial methods of hastening its onset are discussed and shown to be prejudicial to the meat, whereas a third, consisting of rendering the flesh acid, is recognised as of great advantage. Not only does rigor mortis set in more rapidly in an animal killed by the Jewish method, but in certain observations made by Dr. Dembo, whereas all *post-mortem* rigidity had disappeared in thirteen days when the stunning method had been adopted, it was eighteen days before it had disappeared after the Jewish method of slaughter.

By chemical analyses he found that the amount of ammonia liberated by flesh in the same time, and under similar conditions, was far greater in stunned animals. The results of his analyses prove that the flesh of animals slaughtered by the Jewish method will keep two days longer than any other flesh in summer. The conditions obtained by this method are detrimental to the development of lower organisms, and prevent decomposition taking place for a longer time. The reasons for this are that less blood remains in the organism; the more rapid the loss of blood the more quickly lactic acid is formed; the epileptic

convulsions hasten the formation of lactic acid in the flesh, diminish the alkalinity of the blood, assist in the emptying of the small blood-vessels, and hasten the onset of rigor mortis; and more water is drained from the muscles, so that in two hours the flesh of such animals is as firm as that of animals killed by stunning methods is ten hours after death. These and other physiological and chemical problems which have engaged Dr. Dembo's attention lead him to look on the Jewish method of slaughtering animals as far superior to any other when viewed from the standpoint of hygiene.

Agricultural Journal, Cape Colony.

347. The Treatment of Threadworms in Sheep.

In Australia many sheep-farmers believe that plants of the *Brassica* family contain some principle that is unfavorable to the development of lung and stomach worms, and that broad-leaved mustard may prove an excellent preventive and remedy for *Strongylus contortus,* which infests the fourth stomach of sheep.

Professor Simonds when he first discovered this worm advised that the sheep should be fed on rape, and in Cape Colony a stud sheep-farmer reports that his rams fed on rape remain free of worms. If the various plants of the *Brassica* family are obnoxious to threadworms, it is easy to understand that such food-remedies have the advantage over medicines of being constant in their application and effects. Lime-water is also recommended.

Lungworm (*Strongylus filaria,* Cobbold).—This worm, which is a near relation of the *Strongylus contortus,* is well known, but instead of lodging in the fourth stomach inhabits the bronchial tubes and the lungs. This filaria in some seasons has caused great destruction of sheep in South America; in one year there was a loss of twenty millions, and a large proportion arose from this cause.

Preventive Treatment.—If there is reason for anticipating an invasion of the *Strongylus filaria,* all the following measures will be found useful:

1. Drain the land by making small shallow ditches close to one another, in the spots where the ova of the lungworm are suspected to exist.

2. Plough the land where the lungworm is suspected to exist, and spread powdered rock salt in the proportion of 500 lbs. per acre.

3. Mow the grass on the land where the lungworm is suspected to exist.

4. Do not allow the sheep to feed in suspicious places.

5. Do not admit on the run a flock which shows symptoms of lungworm. Do not let any suspicious animal mix with the healthy ones.

6. Scatter rock salt with a liberal hand. Place here and there small troughs containing crushed rock salt and sulphur mixed. At least once a week add a small quantity of lime to the water in well troughs.

7. Separate all sickly animals from the flocks, even although they do not show any symptoms of lungworm. Keep these animals apart, giving them a little hay or other dry food.

8. Enclose the flocks at night either in the yards or in a small dry paddock. Do not let the sheep out too early in the morning.

These are not recommended as curative of the disease, only as preventive. Unfortunately it is too frequently the custom to disregard the warning signs of the coming epidemic until it is raging in full fury amongst the sheep; such measures as the above are then applied too late.

Curative Treatment.—1. Keep the sick animal upon hay and other dry food, and give it water containing $1\frac{1}{4}$ oz. of common salt mixed with 6 or 8 oz. of lime water.

2. Administer a drench of $\frac{1}{4}$ oz. of turpentine with 1 oz. of sweet oil.

3. Fumigate the sick animals. From thirty to forty are enclosed in a shed, all the doors and windows are shut. From the roof-joists there is suspended a pot filled with fuel, to which is added a quantity of sulphur and tar. The animals are kept inhaling the fumes of this mixture for from twenty to twenty-five minutes.

4. A New Zealand breeder of considerable experience recommends:—In cases where a whole flock is suffering from lungworm enclose the sheep in a yard for a sufficient period to render them all thirsty—twenty-four hours or so. Arrange outside the yard a number of water-troughs well filled with lime mixed with water. Release the sheep, and see that they are led to the troughs. The most infected by lungworm are those which will drink with the greatest avidity. This cure has been tried successfully in New Zealand. It is, however, easier of execution in the summer-time than at any other season.

Agricultural Student's Gazette.

348. Cases of Yew Poisoning.

T. A. Dickson states:—On April 3rd a heifer—one of

nine—was found lying dead about five o'clock in the afternoon, having been apparently all right about an hour before.

The other eight were naturally at once examined, and one showed all the symptoms of poisoning, as it was badly blown, and the eyes were staring in a very awkward manner.

It was at once taken to the farm, put into a box by itself, a drench given to it, no water allowed, and its only food was a little chaff and bran.

For thirty-six hours no water was given to her, and at the end of that time she seemed to have recovered, and was allowed to join the rest of the herd, and is, I think, now quite convalescent.

The heifer which was found dead, after the ailing one had been attended to, was opened, and in the rumen was found a quantity of twigs and leaves of the yew. Search was at once made to see where the heifers could have got at the yew, and after some little time it was discovered that a fence round a small plantation had been broken down, and that about twenty yards from this gap were two yews, one male and the other female, but judging from the hoof-marks only the female yew had been eaten.

Within the plantation, and near the yews, was a large pond, into which the heifers had certainly gone; but whether, as the heifers were not seen in this plantation, both animals had drunk at this pond must remain doubtful. The place where the heifer was found dead was about a quarter of a mile from the yews.

I mention the water because some years ago one of the farm horses, when lying out at night in the summer, had broken into the gardens, and had eaten some Irish yew. The waggoner, not knowing this, brought up the horses as usual in the morning, harnessed them, and worked them all day. At the end of the day's work the horses were given some water, and within ten minutes one was dead; and on making a *post-mortem* examination, leaves and twigs of the yew were found in the stomach, in which they must have been for several hours, as during the working hours the horse had no access to the yew.

Bearing this in mind, possibly the fatal case of the heifer may have been due to its having drunk water, and the case where the heifer survived may have arisen from its not having drunk at the pond, and also from water being withheld from it for some thirty-six hours afterwards.

THE CENTRAL VETERINARY MEDICAL SOCIETY.

(*Abstract.*)

An ordinary general meeting of this Society was held in the Masonic Temple (Holborn Restaurant) at 6 p.m., Thursday, November 1st, 1894. The President, Mr. S. Villar, occupied the chair, and there were present as guests of the Society Dr. Ruffer (British Institute of Preventive Medicine), Professor Bayne (Royal Veterinary College), and W. Hunting (President, Royal College of Veterinary Surgeons); with Messrs. Lepper, St. John Smith, and Weatherley; Professors McFadyean, Macqueen, Penberthy, Axe, Hobday, and Shave; A. Broad, J. K. Bruce, Vet. Capt. E. R. C. Butler, A.V.D.; M. Clark, J. A. W. Dollar, C. J. Humphreys, Vet. Major Longhurst, F. C. Mahon (Hon. Sec.), A. Prudames, W. Roots, A. Rogers, J. Rowe (Hon. Treas.), J. E. Rickards, S. Slocock, C. Sheather, F. Sampson, F. Wragg, J. Woodger; and as visitors, Dr. Nutt, St. Paul's Churchyard; and N. Almond, Esq., of Chelmsford.

The minutes of the last meeting were, on the proposition of *Mr. A. Prudames*, seconded by *Mr. J. A. W. Dollar*, taken as read.

PRESIDENTIAL ADDRESS, by Mr. Sidney Villar, F.R.C.V.S.

Gentlemen,—It is, perhaps, customary in an inaugural address to allude to the current politics of our profession; this evening I propose to deviate somewhat from the beaten track, to ignore our politics, but to treat of the condition of our profession as it presents itself to a somewhat young practitioner, who has, in every sense of the word, to work for his living. I am constrained to do this because I feel that young practitioners of the present day are beset by difficulties which perhaps did not obtain with the veterinary surgeon of only one decade ago. It is true that our social position as members of the community is now higher than it has ever previously been, but I cannot but come to the conclusion that to derive only a modest income from the practice of our profession is more difficult than it has ever been before, and necessitates harder work and more constant application than is required in many other callings of life. The causes conducing to this struggle for existence—for such it undoubtedly is with some of us—are to be found both within and without our profession, and, I take it, are due to a combina-

tion, the chief factor of which is undoubtedly the present distressed state of agriculture in this country. The bad condition of the agricultural interest affects all classes of the community, but none more than it does the veterinary profession. With wheat at less than a quarter of its value of twenty-five years ago, and fat stock of all kinds much reduced in value; with the produce of foreign countries carried for thousands of miles at less rates than our own produce is taken for tens, what wonder that the poor farmer is unable to pay his bills or his rent? He cannot, in many cases, purchase live stock for want of funds; and should he have sickness in his horses or cattle he must perforce get medicine and advice in the cheapest market, he *must* employ a veterinary surgeon to operate on his colts, or to help his cows or mares when in trouble, but for ordinary cases why need he incur such expense? Does not his own local newspaper offer him advice gratis? or if he writes the particulars of his scouring calves or parasite-infested foals to a London weekly, will they not give him a recipe for medicine which will cure them, and which he can either mix himself or get prepared for a trifling sum by a druggist, or at the nearest co-operate stores? And who *can* blame the poor farmer, or for that matter the poor landlord either, who being unable to get his rents must reduce his establishment and decrease his stud, but who has facilities for economising in one direction by studying the articles and prescriptions of lay journals as to the ailments of live stock? This distressful condition of agriculture is recognised by others than newspaper proprietors. In many cases county councils who hold cooking, home nursing, and dressmaking classes have seen that benefit and saving may accrue to the ratepayer by holding classes in veterinary medicine and surgery, which classes are open to all and sundry, and must necessarily injuriously affect the veterinary profession. Then, again, it is recognised by lay manufacturers of veterinary medicines, who issue their pamphlets and low-priced medicines; and even William Whiteley, the "Universal Provider," advertises his cough balls and fever powders for cattle at so much per dozen.

Besides the depression in agriculture, other influences for evil are to be found. The appointment by the Board of Agriculture of amateur veterinary surgeons under the title of travelling inspectors has in some cases, as indeed it has in my own, materially affected the income of the veterinary surgeon. The manufacture of farriers or regis-

tered shoeing-smiths has undoubtedly increased our difficulties. "Registered Farrier and Shoeing Smith," so my neighbour, a blacksmith, advertises himself to a community in which most persons regard farrier and veterinary surgeon as synonymous. Now these and other minor circumstances combine to make the life of the country veterinary practitioner a particularly hard one. Only the most severe cases and operations fall to his share—the rough side of veterinary surgery; the ordinary case, the smooth side of practice, is treated without his assistance: not only so, but the calls for his skill are much decreased, and his income suffers in the same degree. What wonder, then, that the veterinary surgeon rushes to the populous cities, the fashionable watering-places, and the sporting centres, and there by overcrowding produces that over-competition and low rate of fee with which we are all more or less acquainted, and which all of us deplore?

It has been said by some that the profession itself is overcrowded. I do not for a moment agree with this. The more really good practitioners that we have the better; the more good men, the more powerful brains we have at work, the better will it be for our reputation as a profession, the more will our existence be felt; and I take it that, instead of being disheartened by the present bad condition of things, we ought to be stimulated to do more to attain to higher standards of excellence, to advance, if possible, a bit in front of the times, and by so doing show the general public that our individual knowledge and skill is of the best; and that whether it is necessary to treat a sick animal suffering from a trivial ailment, or to stamp out an epidemic at enormous national cost, it is far more economical in the long run to employ skilled veterinary aid—be quack medicines never so cheap, or political or personal influences never so pressing.

Gentlemen, I have suggested that the condition of things agricultural generally is at present so bad as to offer but little inducement for young practitioners to embark in purely country practices; but there is one department of agriculture which is prosperous, one great industry which is in a thriving condition, one which must always exist—I allude to dairy farming, the keeping of milch cows. Fat cattle and store beasts were perhaps never cheaper than they are at the present day; milch cows have probably never been so scarce or expensive as they now are. Our population increases, the demand for milk increases, and with it the number of cows and the

requirements for its proper and hygienic production. To this department of agriculture I venture to call the attention of some of our younger practitioners, feeling sure that the study of cattle pathology, or more correctly speaking the treatment of sick cows, is not only deserving of greater attention than it now receives, but that it affords, and will continue to afford, a source of considerable income to such of our members as will devote their attention to it. The accumulation of dairy herds in the suburbs of large towns and in particular localities known as being favorable for this class of agriculture renders the study of cattle pathology as a speciality more remunerative than would otherwise be the case.

An idea seems to prevail that the exhibition of cathartics and aromatics practically covers the whole ground of cattle treatment. This is very far from being the case, more especially in dairy herds. Cows are artificially bred, artificially fed, and kept under circumstances altogether removed from their natural condition, to make them producers of extraordinary quantities of milk. Such treatment produces milk, but it also produces disease, and so work for the practitioner. It has been said that cattle "show no symptoms." That they are lethargic and do not readily indicate their troubles is undoubtedly true, it is oftentimes difficult to observe the symptoms they show, or to recognise the cause giving rise to such symptoms; but is not this all the more reason why we should devote our energies and skill to diagnose and successfully treat the pathological conditions which are hidden to the ordinary observer? So, gentlemen, as one remedy for the present condition of things veterinary, I venture to advocate the more extended study of cattle pathology. But we are not all of us inclined for this class of work, nor, indeed, adapted for it; this division of our calling can at best occupy but a small proportion of our number. The same can be said of dog practice; although this latter department of veterinary medicine has increased wonderfully of late years, it now makes a considerable item in the ledgers of most metropolitan and suburban practitioners, and affords handsome incomes to some gentlemen who make a speciality of canine surgery; yet it is still usually insignificant in provincial places.

The question has frequently been raised—Is it advisable to combine any business with the practice of our profession?

With one exception I think it is not expedient to do this,

although I take it that if it seems good to a man to do so he is justified in so doing. The tendency of the age is to combine; and, moreover, we have examples of combined callings in other equally respectable positions of life: the parson adds to his stipend by taking pupils; the practitioner of human medicine often is the proprietor of a druggist's shop, or receives patients into his houshold for treatment; and the country gentleman also seems now to add to his income by the entertainment of paying guests. Therefore if a veterinary surgeon feels he has a special power or urgent necessity to practise another calling, I do not think that we ought to look down upon him and his work provided such calling is honest and respectable. Bearing in mind that in town practices a very large percentage of lameness is due to some pathological condition of the foot, that the adaptation of particular shoes is absolutely essential to the treatment and cure of many cases of lameness, I think the proprietorship of a forge is often not only permissible, but an actual necessity. This does not, however, apply in an equal degree in country places, and this, I take it, is the only business which we can expediently combine with the practice of our art.

Let us devote instead our spare time and energies to the study of our noble profession, and we shall undoubtedly enjoy the confidence of the public, and flourish despite the unwarrantable competition which we now have to withstand from many outside and from a few within our own beloved profession.

DOG FOODS. (Messrs. Rackham and Co., Upper Market Street, Norwich.)

Gastric and intestinal derangements, so frequently troublesome in dogs, may be prevented to a large extent by careful selection of food. Experience has taught dog-owners that any food is *not* good enough for their canine friends, and that quality and quantity must receive attention if health is to be maintained. Samples of the "Meat Biscuits," "Hound Meal," "Granulated Meat," and "Puppy Food," prepared by Messrs. Rackham, have been tried and found first-rate feeding. Dogs eat the biscuits and granulated meat with much relish, and appear to thrive and improve in condition. These foods contain a propor-

tion of a concentrated meat powder, of which an analysis gives the following highly satisfactory results:

Albumen, fibrin, sarcine, &c. . . .	86·76
Fat	2·63
Phosphates, potash salts (ash), &c. . .	1·86
Moisture	8·75
	100·00

WEDGE-PAD AND HORSESHOE NAILS. (The H.P. Horse-nail Company, Limited, 9, Ducksfoot Lane, E.C.)

The wedge-pad patented by Messrs. Balls and Keep consists of a rubber wedge, made in five sizes, fixed on leather. It is fitted between and tightly clasped by the branches of the ordinary shoe. Protecting the frog and exposing the sole—a distinct advantage—the pad, by its shape, should assist in preventing slipping on greasy streets, and by its position on the foot must tend to lessen the effects of concussion.

The nails, "made in England," are half-countersunk and countersunk, clean, and regular in size and shape. Having strong shanks and excellent points, they offer no difficulty in driving.

BROWN'S PATENT DOUBLE DEE BREECHING. (Messrs. Smith and Co., Saddlers, 151, Strand.)

This invention is designed to replace the old-fashioned breeching, and in some sort the kicking-strap. It consists of a broad padded band running across between the shafts, about three inches behind the horse's thighs, and secured on either side by a strap passed through the staples to be found on every shaft. When descending hills this breeching comes in contact with the hind quarters, over which the thrust of the carriage is distributed. The horse is thus placed in the best possible position for resisting the forward push, whilst the fore-legs are relieved of weight. Rubbing of the legs and cutting of the dock, often produced by the old-fashioned breeching, especially if unskilfully applied, are thus obviated, and the breeching serves the further useful purpose of a kicking-strap, as, should the animal rise, its hocks are caught by the breeching, and it is prevented getting far enough up, or back, to injure the carriage. The new breeching being fastened to the shafts is more or less a fixture. It saves time in putting to, is neat in appearance, and calls for no fresh adjustment after

the first trial. Once known, we anticipate a large sale for this very practical invention.

MANE LAYER AND TRAINER: Godden's Patent.
(Mr. E. Watts, Saddler, 89, Edgware Road, W.)

This is an excellent contrivance for training and laying the mane on either side. It is bound to supersede the old-fashioned method of weighting the faulty mane with pieces of lead twisted into the plaits. The apparatus, made in two lengths, eight and sixteen inches, is simple, easily fixed, effective, moderate in price, and it may be used again and again. Provided with "Godden's Patent" no coachman should find much difficulty in turning out his horse with a tidy mane.

Miscellanea.

National Veterinary Benevolent and Mutual Defence Association.—A son of the widow of an army veterinary surgeon has, on the nomination of the above society, received the free studentship at the New Veterinary College, Edinburgh, kindly granted by Principal Williams.

Royal College of Veterinary Surgeons Examinations.—We have been requested to publish the following resolution:—"That in future cart-horses as well as other horses be provided at the Class C Practical, and that practitioners be invited to send any interesting case possessing well-marked defects."

The Latest.—In the thick of all the fads and quackeries of the nineteenth century we come, says the *Pall Mall Gazette*, upon a real sensible idea at last. It is proposed to pass a law compelling butchers and fishmongers to go through a practical examination in microscopy. This proposal will at once commend itself to all reasonable men. It is well known that butchers are infamously backward in microscopy, and the effort which is to be made to bring them up to the proper educational level of the day will meet with every sympathy from us. The adaptation of microscopy, embryology, and telegraphy to butchery in all its branches has long been recognised as inevitable. Scientific reforms of this sort come but slowly, but thanks to the public spirit of some of our pioneers they do arrive in time. We hope a society will at once be formed for the furtherance of this admirable purpose.

A gruesome yet instructive collection has just been

made by certain German bacteriologists. An assortment of microbes has been gathered which, if bottled, would make an English tourist shudder, for the samples, one and all, come from Continental railway cars. In the dust swept from a square metre of the floors of the fourth-class compartments sufficient bacteria have been found to produce tuberculosis in a guinea-pig, there being no fewer than 12,600 microbes in that space. A third-class car mustered about 5500, a second-class compartment only 4200, while in the aristocratic first-class a paltry 2500 specimens could be found. It is comforting to know that many of the germs were harmless, and that the roofs of the carriages were almost free from infection. From the latter fact one may expect German train-tops to be much in demand in the future.—*Pall Mall Gazette.*

According to a writer in *Hoard's Dairyman*, Messrs. van Dresser, of Cobleskill, New York State, some time ago carried out an experiment and effectually proved that the richness in cow's milk was affected by food. Four cows were first fed on a mixture of silage, wheat, bran, maize, meal, cotton-seed oil, and their own skim-milk, and a little over 23 lbs. of their milk made 1 lb. of butter. Afterwards the diet was enriched by adding beef fat (or tallow, as it is called) to the mixture of meal and bran, beginning with ¼ lb. per cow daily, and increasing up to 2 lbs. At the end of five weeks the milk of the cows was again tested, and it was found that only 18½ lbs. of milk were required to make 1 lb. of butter. The quantity of butter made in a week when the cows were fed on the first ration was 48 lbs. 9 oz., and it rose to 71 lbs. 7 oz. when they were getting the second ration, the only difference being the addition of tallow.

Facetiæ.

Expert Evidence.—"Were you acquainted with the murdered man?" asked the prosecuting attorney of a coloured witness for the defence in a murder case in Texas. The willingness of the witness to say all that he could on behalf of the murderer was very evident. "I know'd him. He was de honestest—" "Never mind about his honesty. You say you knew him?" "Yes, sir. I'se proud to say I nebber knowed sich a noble—" "Nobody asked you about that. What was the condition of his health? Was he not in robust health?" "No, sah; he was de feeblest niggar I eber seed." "He was killed by the accused, was

he not?" "I can't say so, sah. My idea am dat he was in sich bad health dat, eben ef he hadn't been killed when he was, he would hab died on that berry day, sah."

A GENTLEMAN who was spending a month in the Highlands went to hire a carriage for the purpose of taking his family for a drive. He looked at a vehicle and inquired how many it would hold. The ostler scratched his head thoughtfully, and replied, "It hauds four generally, but six if they're weel acquant."

Obituary.

MR. CHARLES JAMES MARTIN, F. and M.R.C.V.S., died on November 2nd, at his residence, Holywell Street, Chesterfield, in the thirty-sixth year of his age. Mr. Martin graduated April 25th, 1881.

McLaren Kitching, East Bridge, Coupar. Graduated February, 1832.

James Dickie, Newmarket Street, Ayr. Graduated July, 1889.

Eric K. Burton, Liberton, Edinburgh. Graduated May, 1893.

Michael Fitzgibbon, Rathkeali, Ireland. Graduated December, 1892.

Notices to Correspondents.

To ensure the publication of communications in the coming number they should arrive by the 15th of the month.

Letters, Articles, Reports of Cases and of Veterinary Meetings, should be addressed to THE EDITORS, 'VETERINARIAN,' ROYAL (DICK) VETERINARY COLLEGE, CLYDE STREET, EDINBURGH.

The Editors do not hold themselves responsible for the sentiments expressed by contributors, nor can they undertake to return rejected papers. They will be happy to advise and assist as far as possible, by letter, correspondents who may desire information regarding cases, instruments, or books.

Letters, &c., have been received from Sam Locke, B. Freer, F. E. Place, H. Begg, E. W. Hoare, J. A. W. Dollar, F. W. Evans, R. Rutherford, C. Pack, R. Martin, R. Spooner Hart, Professor Hobday, F. C. Mahon, F. Somers, A. W. Hill, J. Robinson.

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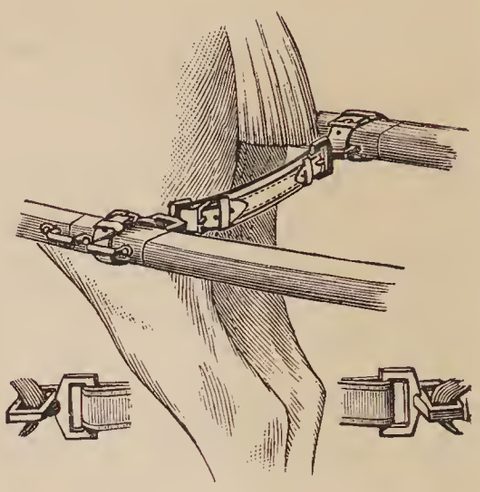

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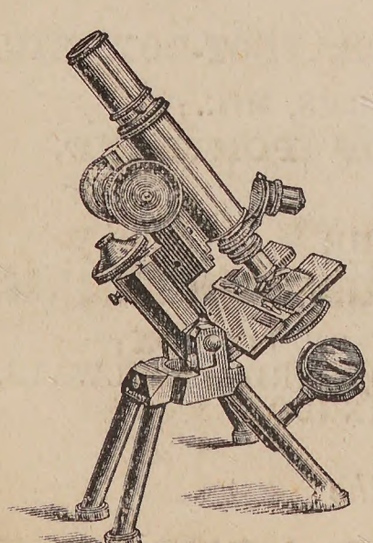

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